Career Watch debuts, with tips and data about the IT job market. **PAGE 38** FDA calls for RFID tracking of prescription drugs. **PAGE 4**

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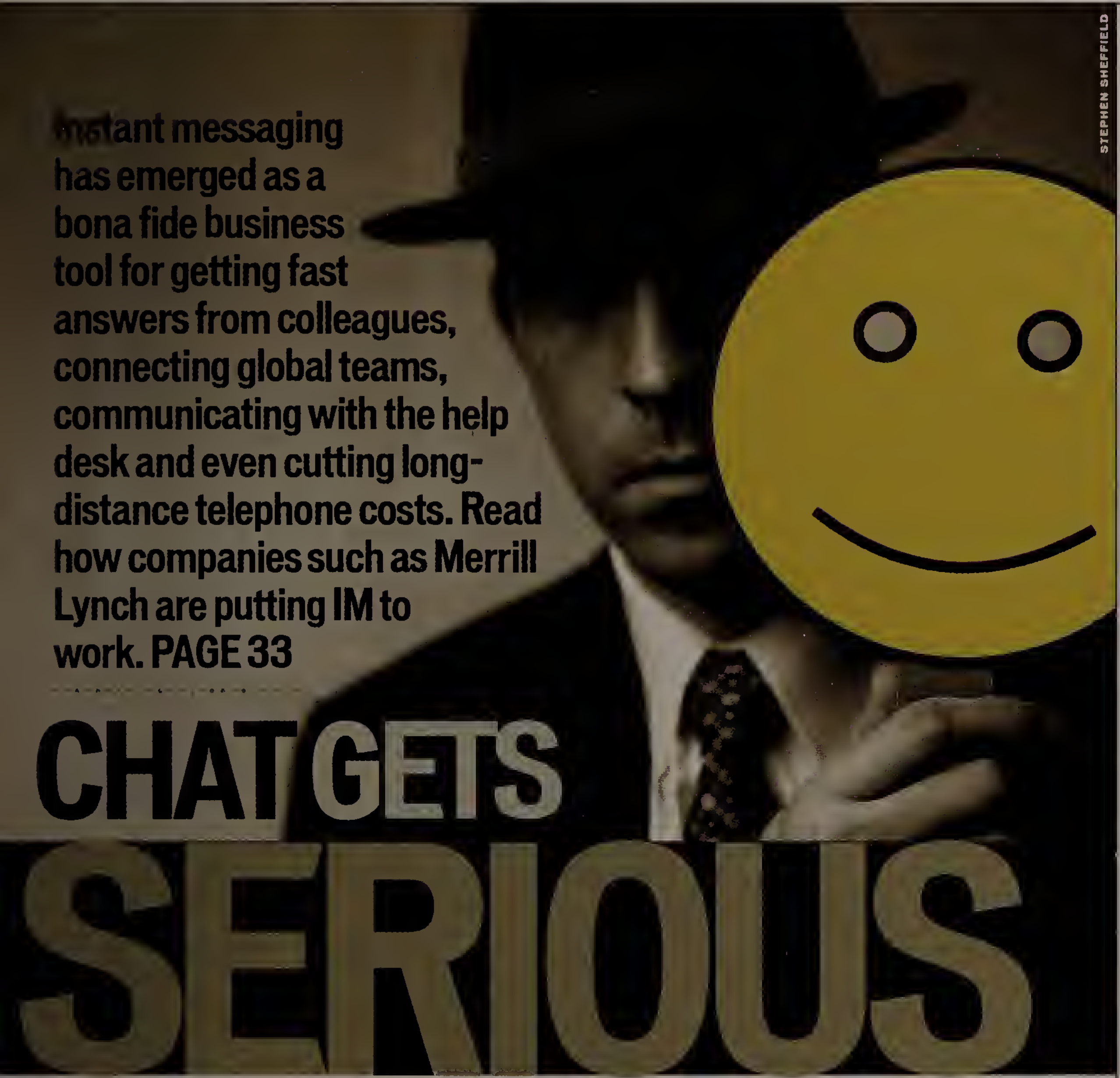

STEPHEN SHEFFIELD

Instant messaging has emerged as a bona fide business tool for getting fast answers from colleagues, connecting global teams, communicating with the help desk and even cutting long-distance telephone costs. Read how companies such as Merrill Lynch are putting IM to work. PAGE 33

CHAT GETS SERIOUS

Users Say $41B Mobile Merger Will Leave Gaps

IT execs expect to still need multiple carriers, despite Cingular's purchase of AT&T Wireless

BY BOB BREWIN

Although Cingular Wireless claims that its $41 billion acquisition of AT&T Wireless Services Inc. will speed up the deployment of high-speed mobile data services, some users and analysts last week said that even the merged company probably won't be able to provide such capabilities everywhere in the U.S.

They added that the lack of full nationwide coverage will require many corporate IT managers to continue using more than one wireless carrier to support their end users.

For example, David Butts, CIO at Schindler Elevator Corp., said it takes three carriers to provide cellular data services to the Morristown, N.J.-based company's 2,500 U.S. service technicians.

Schindler, the North American unit of Switzerland-based Schindler Group, uses separate services from AT&T Wireless and T-Mobile USA Inc. that are based on the GPRS standard and support data transmission rates of 20Kbit to 40Kbit/sec. The elevator and escalator maker also uses a 50Kbit-to-70Kbit/sec. service from Verizon Wireless that's based on CDMA 1Xrtt technology.

Butts said the only way that Schindler's technicians can figure out which carrier works best for them is to test service levels in the territories they cover. So far, about 500 technicians have been equipped with smart phones, he said, and the rest of the workers are due to get

Mobile Merger, page 14

INSIDE
AT&T Wireless' high-speed network sometimes falls short, users say. PAGE 14

Web Retailers Go Open-Source

Licensing costs drive look at alternative to Microsoft platform

BY CAROL SLIWA

Fry Inc. has been using Microsoft Corp. software to design, develop and host e-commerce sites during much of the past eight years. But that's expected to change.

The Ann Arbor, Mich., company, whose clients include retailers Eddie Bauer, Crate & Barrel and Brookstone, tomorrow plans to launch a Java-based offering called Open Commerce Platform that carries no licensing fee for the customer. And Fry is happy to run it on freely available open-source technologies such as the Linux operating system, Tomcat application server and Apache Web server.

That means that an online retailer that hires Fry to build, refresh or reconstruct its e-commerce site can avoid all software licensing costs if it decides to go with a completely open-source package. That's not insignificant, since licens-

Web Retailers, page 47

INSIDE **Microsoft quietly jettisons its Jupiter e-commerce platform. PAGE 47**

Banks Plan Offshore Sharing

Expect to save costs though collaboration on services baseline

BY PATRICK THIBODEAU

Financial services firms aiming to develop a set of best practices for their industry's offshore operations will gather in Orlando this week to kick-start the effort.

The participants, which include J.P. Morgan Chase & Co., Citibank, Wells Fargo & Co., Key Bank and RBC Financial Group, expect the initiative to promote competition and thereby reduce costs and improve vendor performance [QuickLink 42182].

Because a set of basic requirements of offshore out-

Offshore, page 14

NEWSPAPER

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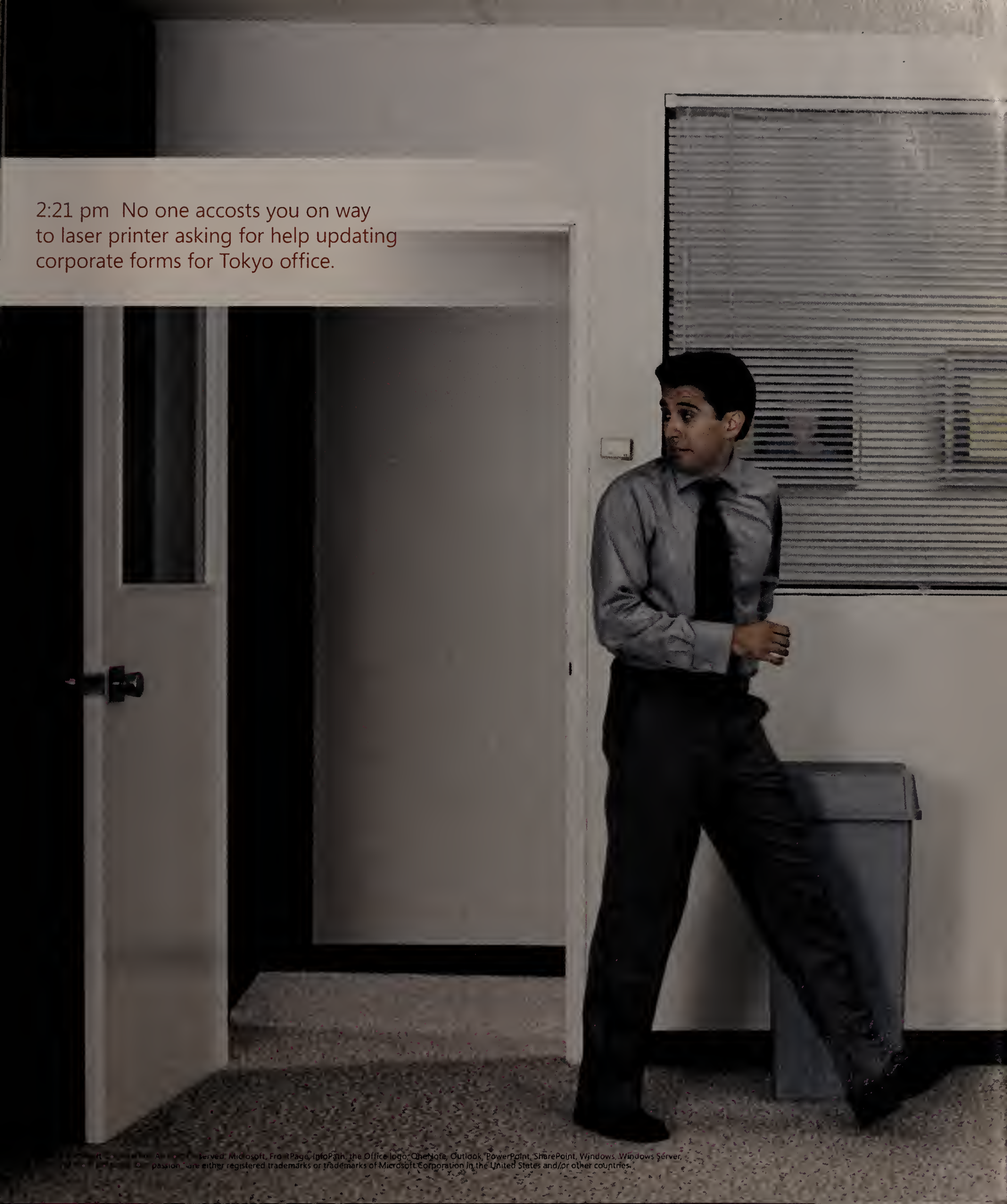
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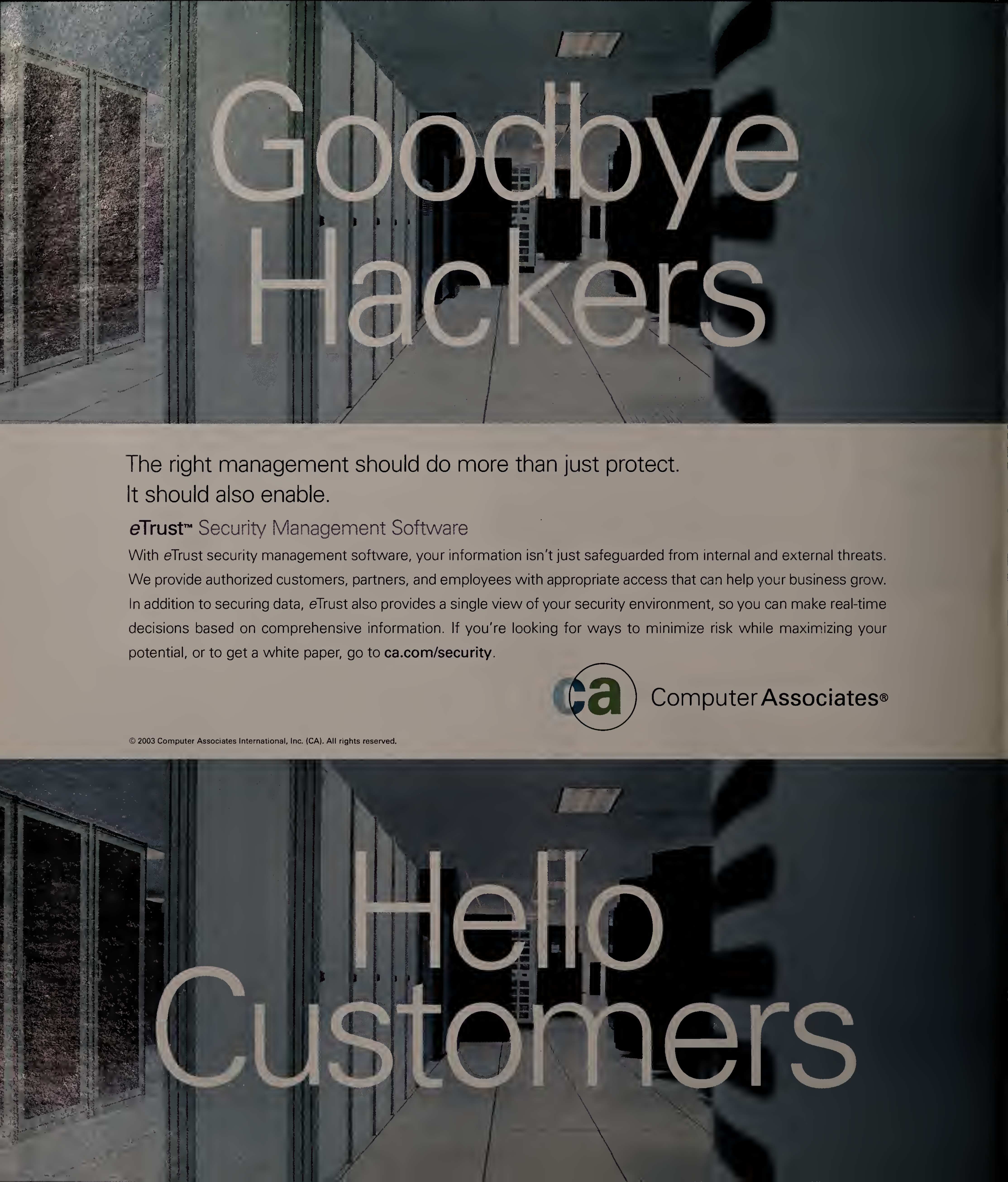

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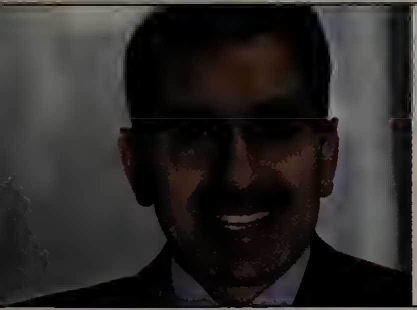

CRM 2.0

In the Technology section: Operational CRM projects are gaining respect through the use of customer analytics, which can demonstrate a payoff, as Morgan Stanley's Tony LoFrumento (left) has found. **Page 21**

Firing Your Project Sponsor

In the Management section: Few things can bring a project to ruin faster than a bad executive sponsor. Here are some tips for project managers on how to get a dysfunctional sponsor out of the way. **Page 35**

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5 **PeopleSoft makes a bid** for the manufacturing market with a new set of supply chain management applications.

5 **IT governance changes** at Ameritrade and Exel Logistics are intended to speed up projects and improve trading of IT staff assignments.

10 **Offshore outsourcing** poses data privacy risks, security experts warn.

10 **IBM offers** an integrated system for preserving electronic documents to comply with regulatory requirements.

11 **Nortel's CEO** makes a case for converged multimedia networking and says CEOs should stop delegating strategic thinking to CIOs.

11 **Cisco unveils** a system for videoconferencing by Internet phone that costs less than $200 per user.

12 **ROI isn't a concern** on wireless IT projects, according to some CIOs.

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15 **A bug hunter finds a flaw** in Microsoft's Internet Explorer Web browser while studying leaked Windows source code.

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33 **Chat Gets Serious.** Instant messaging gets down to work as a bona fide business tool at companies like Merrill Lynch.

36 **Grooming Tomorrow's Leaders.** FleetBoston, Southern California Edison and Wal-Mart have created IT management development programs to help prepare techies for supervisory roles.

38 **Career Watch.** This new feature provides advice and data about the IT job market, such as how to get your foot in the door and how much time hiring managers really spend scanning a résumé.

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40 **Brian D. Jaffe** begins a new column on IT ethics that will cover topics such as what to do if a business manager asks you how to back-date a report.

48 **Frankly Speaking: Frank Hayes** shares readers' suggestions on how to stop clueless users from infecting others with viruses.

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Making the Wrong Choice?

DEVELOPMENT: Columnist Bill Walton explores a fundamental misunderstanding of software development that may be costing your company money. **QuickLink 44891**

Greenspan's Green Light for Job Creation Is Off-color

CAREERS: We need to drive our economy in a whole new direction, shifting to "hyper-human" work that electronic systems are ill-equipped to usurp, says consultant Richard W. Samson. **QuickLink 44819**

Need For Speed

MACINTOSH: *Computerworld*'s online news editor, Ken Mingis, was intent on having the fastest PowerBook on the block, which meant upgrading his hard drive — even if doing so could void the factory warranty. Here's the first of two parts explaining what he did and how it worked. **QuickLink 44827**

Using a Layered Security Approach

SECURITY: Yankee Group analyst Eric Ogren outlines the four key parts of a secure network. **QuickLink 43884**

Save or Toss?

STORAGE: Two Avanade consultants offer advice on developing an e-mail storage plan. **QuickLink 44864**

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The Online Store **QuickLink a2420**

AT DEADLINE

IBM Gets $127M Mainframe Order

IBM said it has signed a $127 million deal to sell 20 of its new zSeries 990 mainframes to Sparkassen Informatik GmbH, a Munster, Germany-based company that provides computer services to about 240 German banks. "This is one of the largest mainframe contracts we have won in recent years," an IBM spokesman said.

HP Reports Rise In Revenue, Profit

Hewlett-Packard Co. reported a year-over-year increase in results for its first quarter, which ended Jan. 31. HP said its enterprise systems and PC units posted strong numbers, but profits from IT services were down. CEO Carly Fiorina said corporate users continue to be "discriminating about how they spend their money."

HP BY THE NUMBERS

	REVENUE	PROFIT
Q2 FY04	$19.5B	$936M
Q2 FY03	$17.9B	$721M

Linux Developers Plug Security Holes

Linux distributors such as Red Hat Inc. and Novell Inc.'s SUSE Linux AG unit posted updated versions of the open-source operating system in an effort to fix several security flaws that malicious hackers could use to gain root privileges on servers. The vulnerabilities affect systems running Version 2.4 of the Linux kernel, not the newer 2.6 release.

Short Takes

Middleware vendor BEA SYSTEMS INC. reported a $39.3 million profit on $278.1 million in revenue for its fourth quarter, which ended Jan. 31. Revenue was up 12% year over year. . . . London's METROPOLITAN POLICE SERVICE said it's taking bids for an IT outsourcing contract that could be worth more than $1.23 billion.

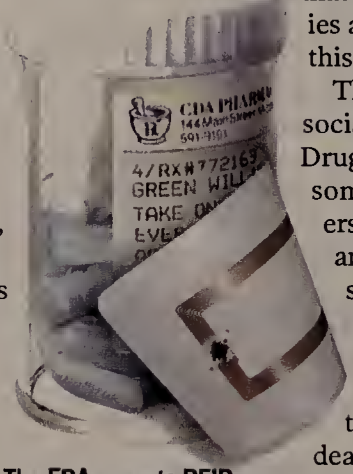
FDA Backs RFID Tags for Tracking Prescription Drugs

Calls for drug makers to use them on shipping pallets and cases by 2007

BY BOB BREWIN

THE U.S. FOOD and Drug Administration last week called for the widespread use of radio frequency identification technology to track the distribution of prescription drugs within three years, a plan that's expected to cost companies in the health care industry hundreds of millions of dollars, if not more.

In a report on its strategy for combating the spread of counterfeit drugs, the FDA said it views the use of RFID tags and readers as the best way for health care companies, hospitals and pharmacies to ensure that medicines are legitimate. The agency envisions a program under which prescription drug shipments will be assigned unique electronic product codes and RFID devices will be used to record data about all supply chain transactions involving the products.



The FDA expects RFID tags to help in the fight against counterfeit drugs.

RFID tags should start being used at the case and pallet levels throughout the pharmaceutical supply chain by 2007, the FDA said, adding that feasibility studies are scheduled for this year.

The National Association of Chain Drug Stores and some key drug makers and distributors announced their support for the FDA's plan, and a group of nine companies said they have signed a deal to have Accenture Ltd. serve as the program manager for a unified RFID effort.

Wal-Mart Stores Inc., which has mandated that its top suppliers begin using RFID tags on pallets and cases by next January, plans to adopt the wireless technology to track all the narcotics and other controlled substances dispensed by its pharmacies, according to the FDA.

A Wal-Mart spokeswoman said the retailer is working with 18 pharmaceutical suppliers to put tags on controlled-substance warehouse packs at a single distribution center by March 31. She didn't identify the companies involved in the effort nor the location of the distribution center.

San Francisco-based drug distributor McKesson Corp. said it believes that electronic tracking capabilities "will significantly enhance counterfeit-prevention efforts and negate the need for an ineffective and potentially fraudulent paper pedigree trail." McKesson added that it has already started to use RFID technology in its own distribution operations.

A Second Opinion

But Dr. Jean-Pierre Garnier, CEO of pharmaceutical maker GlaxoSmithKline PLC in London, sounded a more cautious note. Garnier said in a statement that his company's "long-term goal is the development of an electronic product code that will help track, trace and authenticate medicines through the whole distribution system." He added, though, that the RFID initiative "is a daunting technological task that could take at least three to five years."

Garnier said one of the biggest hurdles faced by companies that want to install RFID-based systems is the need to agree on industry standards and a common IT infrastructure so medicines can be tracked across the entire supply chain.

Detailed cost figures for the RFID initiative weren't available last week. But Gartner Inc. analyst Barry Heib estimated that the 34,000 chain drugstores in the U.S. would need to install an average of five RFID readers, which now sell for about $2,500 each. That would amount to total expenses of $425 million at the pharmacy level.

Heib said he thinks that each of the country's 6,000 hospitals would have to install at least 10 readers, amounting to another $150 million. Those investments would also have to be backed up by substantial spending on networks, databases and the RFID tags themselves, he added. **44911**

ALL ABOUT RFID

To read additional stories about RFID technology, go to our Web site:

QuickLink a3690
www.computerworld.com

Accenture Leads Initial RFID Rollout for Drug Supply Chains

Accenture this summer plans to begin limited deployments of RFID technology in pharmaceutical supply chains as part of a project called Jump Start.

Jamie Hintlian, a partner in the consulting firm's health and life sciences supply chain practice, said the initial rollout shouldn't be viewed as a test of the technology. Accenture considers it to be Version 1.0 of a system that's being designed for use throughout the prescription drug industry, he said.

The companies that have signed on as Jump Start partners and tapped Accenture to be their RFID program manager include Abbott Laboratories, Barr Pharmaceuticals Inc., Cardinal Health Inc., CVS Corp., Johnson & Johnson, McKesson, Pfizer Inc., Procter & Gamble Co. and Rite Aid Corp. Also working with Accenture are the Healthcare Distribution Management Association and the National Association of Chain Drug Stores.

In the initial phase of the project, Accenture will use RFID tags to track bulk bottle shipments of two prescription medicines from five drug makers to a distribution center. From there, the products will be tracked to two pharmacies operated by each of the participating drugstore chains.

Hintlian said the limited rollout will give Accenture and its partners an opportunity to assess RFID technology, including readers, tags and databases, in a real world environment. Accenture also wants to use the initial setup to show how the technology can ensure the safety and security of prescription drugs, improve management of product returns and increase the efficiency of distribution operations, he added.

According to Hintlian, Accenture is responsible for selecting the RFID hardware and supporting software and networking devices, in consultation with its Jump Start partners. He noted that the initiative will include the use of electronic product codes based on standards developed by EPCglobal Inc., whose standards are also being adopted by Wal-Mart.

– Bob Brewin

PeopleSoft Makes New Bid to Win Over Manufacturers

Adds apps for simplifying supply chain management, assessing complex orders

BY MARC L. SONGINI

PeopleSoft Inc. this week will unveil a set of applications designed to help users streamline their supply chain operations, as part of the software vendor's continuing effort to boost its standing among manufacturers.

SAP AG, Oracle Corp. and Microsoft Corp. are also due to announce new products at the National Manufacturing Week 2004 show, which starts today in Chicago (see box). But PeopleSoft's rollout is particularly noteworthy because the company lags behind top rivals SAP and Oracle in selling manufacturing-oriented applications to large users.

PeopleSoft, which bought J.D. Edwards & Co. last summer partly to boost its manufacturing market share, will add new and enhanced tools that support lean manufacturing and inventory processes, radio frequency identification technology and other functions.

New Additions

For example, the Pleasanton, Calif.-based company is adding two portal-based products to the EnterpriseOne Supplier Relationship Management suite it acquired as part of the J.D. Edwards deal, said Andy Carlson, vice president of product marketing for supply chain management.

One is a self-service application that will let suppliers look at manufacturers' inventory data online and quickly respond to spikes in demand and potential out-of-stock situations, Carlson said. Also coming is a portal offering that procurement workers will be able to use to track purchase orders and receipts, identify potential supply glitches and create supplier scorecards.

PeopleSoft is also announcing an order-promising application for configure-to-order manufacturers. Carlson said the tool will provide regularly updated views of available raw materials and the production capacity of suppliers that make items such as complex subassemblies, so users can determine whether they can fulfill incoming orders and how profitable the sales will be. The new products are slated to ship by May.

PeopleSoft's focus on lean manufacturing is appealing to Ted Weinrich, MIS manager at Larson Manufacturing Co., a storm door and window maker in Brookings, S.D. Weinrich said Larson faces stiff competition and needs to cut costs and boost its production efficiency to meet the demands of major customers such as Wal-Mart Stores Inc.

Larson runs PeopleSoft 8.4 ERP and supply chain applications, which are now part of the vendor's flagship Enterprise product line. Weinrich said Larson's effort to make its manufacturing operations more efficient could be aided by PeopleSoft's Demand Flow technology, a set of software tools that's designed to help manufacturers simplify their operating procedures. PeopleSoft acquired the tools from Englewood, Colo.-based JCIT International Inc. in a deal announced last October.

"People think you buy software and it magically solves your problems," Weinrich said. "No, it doesn't. It has to have a cultural change, and PeopleSoft recognizes that and is trying to put the two together." He added that over the past several years, PeopleSoft has been improving its manufacturing offerings and "doing a great job of coming along with us."

Thanks to its acquisition of J.D. Edwards, PeopleSoft can boast that it has a decent user base among midsize manufacturers, said Navi Radjou, an analyst at Forrester Research Inc. But Radjou said PeopleSoft's own ERP installed base has been more reluctant to buy its manufacturing and supply chain applications, even though many users he has interviewed have indicated that they would prefer to install PeopleSoft's products in order to reduce integration headaches. **44877**

OTHER ANNOUNCEMENTS

- **Oracle** is adding sequencing automation technology that's designed to make assembly lines more efficient to its flow manufacturing software.
- **3M and Microsoft** are teaming up to announce Web-based packaging management software that will run on Windows systems and SQL Server.
- **SAP** is announcing manufacturing applications tailored for midsize companies in vertical markets like automotive and high-tech.

RELATED COVERAGE

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IT Execs Push New Governance Models To Speed Up Projects, Improve Visibility

BY THOMAS HOFFMAN

Companies such as Ameritrade Holdings Corp. and Exel Logistics are overhauling their IT governance models in an effort to better prioritize technology projects and manage their IT staffs more effectively.

For instance, Asiff Hirji said he made sweeping IT governance changes at Ameritrade after he became the Omaha-based online brokerage's CIO last April. Prior to Hirji's arrival, Ameritrade's IT department used a so-called waterfall application development method to manage projects in nine-month cycles and then rolled out the resulting technology to internal end users or customers each fall.

Projects are now broken down into increments of six to 10 weeks, allowing Ameritrade to complete development work faster and introduce new investment management products more quickly. Hirji cited as a recent example QuoteScope, a market liquidity tool that Ameritrade made available to customers last August after a four-month development project.

He added that if a competitor launches a new product or service, "we're 12 weeks away from responding to it under a worst-case scenario."

Under the waterfall approach, reacting to market changes would have required "a massive amount of disruption" to IT staffers and ongoing projects, Hirji said.

Team Effort

In addition to following the new project management strategy, Ameritrade's executive team now meets every six months to do "a top-down allocation" of IT resources, identify possible projects and determine the required technology investments, Hirji said. The CIO and his top lieutenants also meet weekly with business unit leaders to prioritize and review projects.

"We think we have a good approach," Hirji said. "This is a heck of a lot more effective than what we had previously."

Hirji reports directly to Ameritrade CEO Joe Moglia and was one of three executives named to the Office of the CEO, a group that was formed earlier this month, along with Chief Financial Officer Randy MacDonald and the company's chief operating officer. Even though Ameritrade is a brokerage, "we're organized as a product company, and our product is technology," MacDonald said. "So I think it's important that the person who is responsible for building that technology sit at the table with us."

> This is a heck of a lot more effective than what we had previously.

ASIFF HIRJI, CIO, Ameritrade

Ameritrade isn't the only company that's making big changes to its IT governance model. Exel Logistics, a Westerville, Ohio-based provider of supply chain management and logistics services, is rolling out project management software from Austin-based PlanView Inc. to help it foster a consistent IT governance approach, said CIO Domenic DiLalla.

The software is being adopted worldwide by U.K.-based Exel PLC, the parent company of Exel Logistics, with the U.S. unit spearheading the project. Before, the logistics company "took a rather myopic view" of the return on investment anticipated from IT projects, DiLalla said. But, he added, that approach failed to take into account other factors, such as the impact that a project would have on the company's IT infrastructure or the risks involved.

"We have hundreds, maybe even thousands, of projects going on globally," DiLalla said. Exel plans to use the PlanView software to track the IT staffers who are allocated to different projects and the amount of time workers spend fixing system glitches, he said. **44907**

DOES LINUX ADD UP TO LOWER TCO?
ASK THE EXPERTS.

Microsoft

"Although the Linux OS itself is nominally free, Linux is only one component of an increasingly complex application infrastructure stack.... From a total-cost-of-ownership perspective, we believe the overall application costs of integration and ongoing infrastructure management and support far outweigh one-time, upfront hardware and OS software costs."

—META Group, November 2002
Linux Servers: No "Silver Bullet" for Total Cost of Ownership

Leading independent research analyst META Group found in a recent study that Linux on Intel infrastructure costs are *not* lower than Windows® on Intel. To get the full study and other third-party findings, visit microsoft.com/getthefacts

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BRIEFS

Bank's Back-Office Ops Sent to India

Bank of America Corp. is setting up a subsidiary in Hyderabad, India, to process some of its back-office operations. The Continuum Solutions Pvt. unit will have around 1,000 workers by the middle of next year, the Charlotte, N.C.-based bank said last week. The bank already outsources some software development work to Indian companies.

Yahoo Fires Up New Search Engine

Yahoo Inc. last week unveiled a new search-engine technology and began phasing out services from Google Inc. The algorithmic technology now being used on Yahoo Search will soon be rolled out among Yahoo's worldwide properties, with plans to introduce new customization and personalization features, the Sunnyvale, Calif.-based company said.

IWay Enhances ETL Software

Business intelligence software maker Information Builders Inc.'s iWay Software Inc. subsidiary this week is expected to announce an enhanced release of its extract, transform and load software. The new version, ETL Manager 5.5, will feature an improved user interface that can collapse multiple processes together. ETL Manager 5.5 will ship in mid-April, with prices starting at $15,000.

Navy Contract Is Fixed, EDS Says

Electronic Data Systems Corp. CEO Michael Jordan last week told financial analysts that the troubled $6.9 billion Navy/Marine Corps Intranet project is under control, although he acknowledged that it has taken longer than expected. "This contract was a mess," Jordan said. "Now we have a very solid plan."

MARK HALL ■ ON THE MARK

Xerox Picks Fight With HP Over . . .

. . . color printer technology. Specifically, Xerox Corp.'s solid-ink division in Wilsonville, Ore., is taking Hewlett-Packard Co.'s color laser printers to task for **not being good to the environment.** Jim Rise, vice president and general manager of Xerox's solid-ink group, claims that for every 100,000 pages it prints, an HP 4550 laser printer generates 176 pounds of nasty leftovers, such as spent cartridges, for user companies to discard. (HP's PR "hotline" went cold when we asked for a response.) You won't be shocked to learn that Xerox says its equivalent solid-ink printer, the Phaser 8400, produces a modest 17 pounds of refuse after the same number of pages. Rise also crows about Xerox's new Printer Configuration Card. That's a new microchip loaded with the printer's network parameters like its IP address and default gateways, which he says makes maintenance easier and lets you swap printers without having to configure the new one. You just pop in the old printer's chip. He also says the chip will be migrated up the Xerox printer line, even into its laser printers. But he **didn't mention how many pounds of used consumables Xerox's lasers** left in their wake. ■ You know the drill. You upgrade your server or migrate files for load balancing, and the help desk calls come rolling in. Suddenly, users can't access the links in their Excel, Word and PowerPoint documents. You can stop the yelling with some cool utilities from LinkTek Corp. in Clearwater, Fla. LinkFixerPlus can **report and fix broken links for any reason** in the Microsoft Office Suite or any HTML document, claims Bruce Saliga, LinkTek's executive product manager. And early next quarter, the company will add Adobe Systems Inc.'s PageMaker and InDesign to its list of apps. Next on the list will be QuarkXPress and AutoCAD. Pricing starts at around $30. ■ Phil Soran, CEO of Compellent Technologies Inc. **thinks his company is making a bit of history** with its new SAN system, so the Eden Prairie, Minn.-based vendor will unveil it at the Minnesota History Center in St. Paul on Wednesday. Maybe he's right. The startup's first product, Storage Center, does all the standard SAN tasks, such as logical unit number masking and the like, but it also includes integrated file migration tools and unlimited iterations of data rollback-in-time functions. Storage Center also lets you assign an application disk capacity for growth without actually having the disks in the SAN. It's designed to alert you when you need new gear, so **you only have to buy the disk drives you need.** What may be truly historic is that Compellent has been secretly selling its SAN under nondisclosure since last fall and already has a dozen reference accounts. Imagine: **A vendor underhyping its technology.** That's a first. ■ Another first might be a salesman not complaining about his compensation. You might want advise your VP of sales to evaluate the upcoming Centive Portal from Incentive Systems Inc. in Bedford, Mass. The 4.3 release, due in mid-Q2, adds communications between inside and field sales, channel and other outside representatives with the right company manager. Most important, the upgrade **automates dispute resolution** when the sales guy thinks his check is too small. ■ Security concerns shouldn't stop you from **offering new IT-based services to consumers.** That's the thinking at New York Life Investment Management LLC (NYLIM), a Parsippany, N.J.-based subsidiary of New York Life Insurance Co. It was an early adopter of online technologies to serve participants in its financial management programs. Online access to account data came in 1996, followed by e-mail notifications in 1999. In 2002, with the increased attention on security, NYLIM began using technology from San Mateo, Calif.-based Secure Data in Motion Inc., which goes by the name Sigaba, to encrypt the data in both directions. Hard to do when you've got at least **40,000 customers using everything from AOL 3.0** to the latest open-source mail client, says Tod Bryant, director of information systems at NYLIM. But it works, and "it's easy to use" by both end users and staff. So much so, that Bryant's department this year will bring in-house the authentication server, which has been housed in Sigaba's data center. 44895

Boot Protection

By the end of next month, Phoenix Technologies Ltd. in Milpitas, Calif., will begin shipping to its PC manufacturers "core system software" (often called BIOS) that will include McAfee antivirus software from Network Associates Inc. More than 60% of the world's desktops and 70% of laptops ship with Phoenix's BIOS, which is used to boot PCs before the operating system takes over.

Coke, SAP Co-develop Bottling App

BY MARC L. SONGINI

Coca-Cola Enterprises Inc. has announced a multiyear deal with SAP AG to co-develop a beverage-specific application designed to improve its ability to serve customers in the field, slash costs and share data through multiple systems.

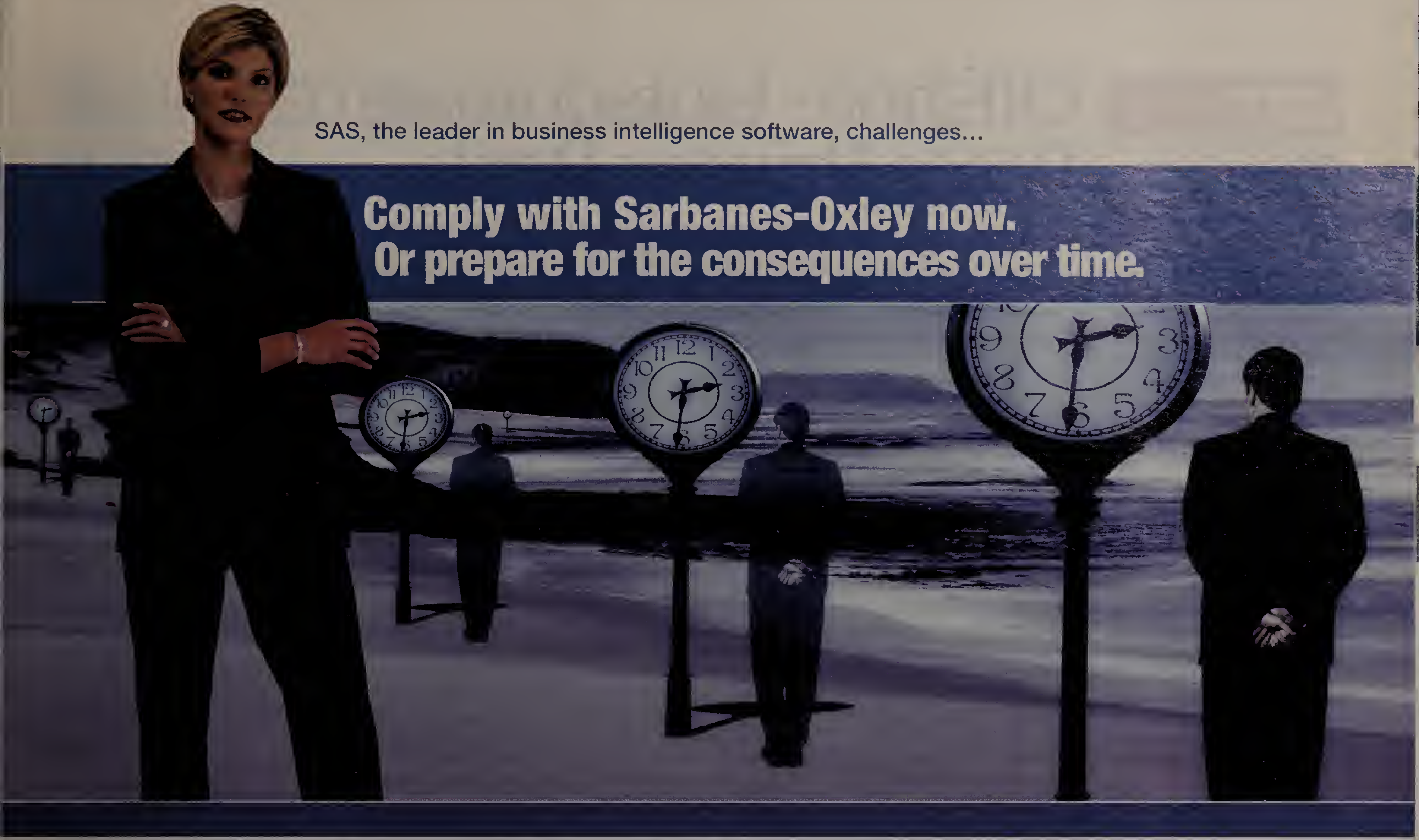
The system will be built around SAP's ERP and CRM applications as well as its NetWeaver integration middleware to enable mobile connectivity. It's aimed at helping consumer products companies improve the logistics of store deliveries and vending machine maintenance, said SAP.

"This should improve market execution, and the consumer will experience better service," said Margaret Carton, CIO at Atlanta-based Coca-Cola. "This will give us a more integrated system that hopefully will give us more information at the store level and account level, and we'll be able to more effectively manage the business on the street."

Coca-Cola is currently running a mix of ERP and supply chain management applications, including SAP's R/3 production planning applications. What has been missing, said Carton, was the ability to connect direct store delivery capabilities to its ERP backbone.

For example, the field merchandiser who fills orders at a store will be able to use a wireless device to get alerts if an emergency arises that requires a change of route. Currently, only some employees have wireless access, she said.

SAP plans to offer the first product for sale early next year. Carton said Coca-Cola isn't concerned about the package being used by its competitors. If the company needs a proprietary process for competitive advantage, "we always have the ability to develop it ourselves or have SAP develop it exclusively for us," she said. Carton declined to say how much money Coca-Cola is investing in the project. 44849



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BRIEFS

IBM Ships Eclipse Tool for Self-Healing

IBM last week launched an autonomic computing tool kit based on the Eclipse open-source development framework that company officials said will help developers build self-healing computer systems. The tool kit contains embeddable components, usage scenarios and documentation. It supports IBM AIX, Linux on Intel, and Windows 2000.

Siemens to Expand In China and India

Siemens AG plans to hire IT workers in China, India and Eastern Europe, without axing jobs in Western Europe and the U.S., a company spokeswoman said last week. The remarks come after a Siemens official in India was quoted in press reports as saying that the Munich-based company had recognized a need to move a chunk of its software development activity to low-cost countries.

Microsoft Begins Virtual Server Beta

Microsoft Corp. is offering its Virtual Server 2004 to a select group of customers in what the company calls a private beta. The software product allows users to run different operating systems on a single hardware server. One use of the server products that Microsoft has promoted is to help users migrate from Windows NT 4.0 to Windows Server 2003. Virtual Server is scheduled to ship in the first half of the year. Pricing has yet to be announced.

Short Takes

The **FEDERAL COMMUNICATIONS COMMISSION** voted to proceed with measuring interference caused by broadband over power-line service. . . . **PEOPLESOFT INC.** said it will increase the number of employees it has in India from 400 to 1,400 by the end of this year.

Offshore Outsourcing Poses Privacy Perils

Contracts need to stipulate exactly how overseas vendors will safeguard data

BY JAIKUMAR VIJAYAN
WASHINGTON

OUTSOURCING JOBS to offshore locations can sharply increase data privacy risks and the complexity of managing them, privacy and security professionals said last week.

Consequently, companies with an offshore outsourcing strategy need to ensure that their overseas vendors are contractually tied to safeguarding data security. That was a key message at the Fourth Annual Privacy and Data Security Summit here.

Although data privacy legislation is pending in India, the largest offshore outsourcing destination, no such laws are in place there now [QuickLink 38829]. That's what makes it especially important for companies to thoroughly understand and deal with privacy issues in their contracts, said Amy Yates, general counsel at Hewitt Associates LLC, a human resources outsourcer in Lincolnshire, Ill.

Shipping work to a third party doesn't absolve a company of responsibility for protecting that data, Yates said. Offshore vendors aren't legally obligated to comply with any of the privacy regulations that their customers are required to meet as owners of the data.

> **"You can't expect your vendor to fulfill your legal obligations for you.**
>
> **AMY YATES,** GENERAL COUNSEL, HEWITT ASSOCIATES

"You can't expect your vendor to fulfill your legal obligations for you," Yates said. "They are obligated only to their contract with you. So you need to tell them what to do."

That means spelling out as specifically as possible how the vendor is expected to use and protect sensitive data and stipulating the right to audit vendors for compliance.

Response Strategy

It's also important to have a good incident-response capability to deal with security or privacy breaches, said Marc Lowenthal, chief privacy officer at New Century Financial Corp. in Irvine, Calif. The company has set up an incident-response team that includes Lowenthal, the chief security officer, IT representatives and employees from audit and compliance teams.

Once a breach has occurred, "it really is about how you minimize your damage," Lowenthal said.

Regulatory compliance can be especially difficult to manage offshore, privacy experts said. Under California's SB 1386 law, for instance, companies are required to notify customers of any database breach that may have compromised their personal data, as soon as the breach is discovered. With overseas vendors, it becomes a lot more difficult to know whether, and exactly when, a material breach may have occurred, said Richard Purcell, founder of Corporate Privacy Group, a Nordland, Wash.-based consultancy.

Moreover, personal data that is covered by a privacy law such as Gramm-Leach-Bliley might reside in a database along with data protected under the Health Insurance Portability and Accountability Act, SB 1386 or European Union laws.

"Not all data is the same. There are different sources of data, different types of data and different rule sets," said Ken DeJarnette, an analyst at Deloitte & Touche LLP in San Francisco. "Without knowing what your data is, you won't know what protection you need." **44910**

ALSO AT THE SUMMIT

Stronger privacy laws are taking a toll on direct marketers:

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IBM Tailors Bundle for Preserving Corporate Data

Integrated system to aid in regulatory compliance efforts

BY THOMAS HOFFMAN

IBM last week unveiled an integrated system designed to help users preserve electronic documents that are needed to meet the requirements of new regulations such as the Sarbanes-Oxley Act and the Health Insurance Portability and Accountability Act.

The IBM TotalStorage Data Retention 450 combines server, storage and software components in a securable cabinet. The system, which will begin shipping next month, starts at $141,600 for a 3.5TB configuration and can scale up to 56TB of storage using IBM's FAStT600 disk array.

The technology bundle is centered around the company's Tivoli Storage Manager for Data Retention, a new software package that can be used to protect the integrity of corporate data and automatically enforce retention policies.

Using a policy-based management approach, documents and other forms of data can be stored indefinitely in the TotalStorage system or set to expire on predetermined dates, IBM said.

Products like the 450 "will be very important from a storage perspective," said Shelley McIntyre, second vice president of business technology services at Guardian Life Insurance Co. in New York. But McIntyre added that Guardian has already chosen EMC Corp.'s Centera Compliance Edition disk arrays and iLumin Software Services Inc.'s Assentor e-mail management tools for its regulatory compliance needs.

Tivoli Storage Manager for Data Retention supports both structured and unstructured data, said Alan Stuart, chief strategist for compliance and data-retention solutions at IBM. The software is embedded in an IBM pSeries 615 server that supports up to two Power 4+ processors, Stuart said.

IBM said the bundled system supports more than 600 storage devices, including its TotalStorage Enterprise Tape Drive 3592 and its family of Linear Tape Open products. In addition, IBM said upcoming support for the 3592's WORM media option will let users ensure that data can't be overwritten or erased. WORM, or "write once, read many," is an optical storage technology that can be used to create permanent sets of records.

IBM "has been in records management since the 1970s, but this is the first time I've seen them bring together a cohesive document-management solution," said Jack Scott, an analyst at Evaluator Group Inc. in Greenwood Village, Colo. **44904**

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Nortel CEO States Case on VoIP, Converged Networks

Q&A

At its annual investors conference last week in Boston, Nortel Networks Ltd. executives held forth on major technology trends affecting the telecommunications industry, with special emphasis on the rapidly emerging Chinese market as the place to sell plenty of voice-over-IP and third-generation wireless equipment. The Brampton, Ontario-based vendor has also been intensifying its focus on enterprise customers beyond its traditional base of telecommunications service providers.

In an interview with Computerworld *Editor in Chief Maryfran Johnson, Nortel CEO* **Frank Dunn** *talked about the future of multimedia converged networks and why CEOs need to stop delegating strategic thinking about networks to their CIOs.*

One of the hot topics at this investors conference has been VoIP. What signs do you see in the market that you find encouraging – or discouraging? VoIP is really in vogue now. There aren't many CEOs who aren't saying they'll be getting into it. So the analysts are hearing about it and bringing it up.

But the transformation of the network is a much bigger phenomenon than VoIP. The story's going to be multimedia over IP — video, voice and data all coming together. Voice is just one of the first applications.

We've been talking about the transition of networks from a digital base to a packet base for a while. What's stimulating the advancement now is the idea of changing the business model and adding more interesting value-added services. To do that, you need a packet-based network that is broadband and highly reliable.

NORTEL CEO FRANK DUNN

Where should enterprise customers be looking or expecting to save costs in their telecommunications installations in the next few years? On many fronts. We've cut our own IT costs by 75%, reducing servers and storage devices and moving that processing power and capability into the network. I'm sitting down with a lot of CEOs and CIOs and talking about issues like packetizing the network and then merging desktop and voice data networks.

How is the convergence to IP going with customers? Is it happening at the rate you expected? The activity is picking up, yes. It's working out better now because we've changed the game. Instead of talking only about saving costs with VoIP, we're talking about the productivity and business-model change it enables. Our solution differs a little from some of our competitors. We're able to let customers grow into VoIP at their own pace. They can transform their business gradually instead of doing a rip-and-replace [installation].

In your conversations with corporate users, how is Nortel faring on service and reliability? What are your remaining challenges? Nortel has a huge opportunity to differentiate itself in this market with reliability, although we weren't as reliable during the years of the Internet bubble as we should have been. We lost a little of that focus in the late '90s, when it was all about getting it in there fast and fixing it later. To build a network with "five 9s" reliability, you need a lot of history doing that. We forgot it for a while, but we're back at it.

To offer a multimedia converged network to enterprise customers, they need to know it'll always be there and always be up. We know how to do that, and we've been fixing our products that don't have carrier-grade performance.

Nortel and the other traditional voice vendors offer customers hybrid switches that use IP as well as circuit switching, while Cisco sticks with only VoIP gear. How much of a benefit is this hybrid approach when you go up against the market giant? I have an enterprise with 35,000 people in it. If you were to tell me that I had to rip and replace that entire network with VoIP and that all the feature sets my employees were used to weren't all going to be there, I'd have a problem with that. I've been in the voice business a long time, and voice is one of the toughest apps you could do. I'm not sure everybody is really good at it. In the core IP router market, Cisco is definitely there. But we're looking at where money will be spent, and we believe it's at the edge of the network, in multimedia services. So we're very focused there.

What should CEOs be thinking about when it comes to converging their voice and data networks? I think it's important that CEOs stop delegating the whole network situation to the CIOs. The business people need to understand the capabilities that are coming and the ways they can be engaging with their customers. How will your company do business differently in the future?

If [a converged network] isn't going to change your business model, maybe your competitors will be finding those new ways to engage with customers. 44900

Cisco Offers Video System for Internet Phones

PC-to-PC video hookup possible

BY LINDA ROSENCRANCE

Cisco Systems Inc. last week unveiled a system that allows real-time videoconferencing on Internet phones for less than $200 per user.

Cisco said Version 4.0 of its CallManager software, which is designed for IP voice server systems, and Version 1.0 of its Video Telephony Advantage client software allow real-time, person-to-person video sessions to be added transparently to telephone calls.

"When you place a call to someone else within your company, not only can you connect with voice, but the Cisco CallManager will set up the video connection between your PC and the other person's PC, assuming that you both have a [Web] camera attached to your PCs," said Marthin De Beer, vice president and general manager of Cisco's IP communications group.

De Beer said that once a video call is under way, a user has access to the same kinds of features that are available with a regular telephone call.

"So you can put the call on hold, you can transfer the call to someone else, and the video will move with the call to that other person," he said. "And you can hit the conference button on the phone and [pull] three or four other people into an ad hoc videoconference. So it becomes a much more powerful and more effective way to communicate."

Users who already own CallManager voice software with a service agreement and Internet phones from Cisco can upgrade to the latest version for free and purchase a PC package consisting of Cisco VT Advantage video software and a Web camera for about $190 per user, said Darren Pryke, product manager of IP communication systems at Cisco.

The latest release of CallManager is already available, and the new Cisco VT Advantage software and camera package will begin shipping in late March or early April, De Beer said.

The CallManager software is also designed to work with traditional videoconferencing systems from several manufacturers, including Tandberg ASA and Polycom Inc., Pryke said.

Separately, Cisco last week announced that it's embracing a global standard for powering network-connected devices over Ethernet. The move allows users to take advantage of a potential flood of third-party products such as sensors and wireless access points that don't require a conventional wall socket.

The standard, called IEEE 802.3af, is now available on a wide range of Cisco's enterprise switching products. The company previously used its own power-over-Ethernet technology, developed in 2000, before the standard was ratified. It will continue to support that approach in addition to 802.3af wherever possible, said Steven Shalita, senior manager of worldwide product marketing for LAN switching at Cisco. 44915

The IDG News Service contributed to this report.

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CIOs Say ROI on Mobile Devices Not a Big Concern

See wireless technology as a must-have

BY BOB BREWIN
LOS ANGELES

WIRELESS technology and mobile workforces have become so ingrained in companies that return-on-investment concerns rarely become an issue when new wireless devices or applications are being deployed, according to CIOs who spoke at a conference here last week.

For example, Northrop Grumman Corp. CIO Keith Glennan said the aerospace company views Research In Motion Ltd.'s BlackBerry handheld systems as essential to its global operations. The Los Angeles-based company has rolled out 5,500 BlackBerry units to its employees, making it one of the largest users of the wireless devices, Glennan said at a CIO forum sponsored by the Wireless Internet for the Mobile Enterprise Consortium at the University of California, Los Angeles.

In fact, every time Research In Motion releases a new model, Northrop Grumman tests the technology in a corporate jet to ensure that it can provide mobile services to executives while they're in transit.

Workforce on the Move

Scott Griffin, CIO at The Boeing Co. in Chicago, said his company also uses BlackBerry devices extensively, but not within its airplane division. The CIO of that business unit — not its chief financial officer — decided against deploying the devices for cost reasons, Griffin said. That choice notwithstanding, the company does "not do an ROI on mobility," he noted. "Some people must be connected, and then we figure out how much mobility they need."

Griffin said that because Boeing seems to move each of its workers to new locations on an annual basis, building wireless connections into company facilities makes sense. It's easier and less expensive to hook up transplanted employees via wireless links than by installing new Ethernet jacks, he said.

Wireless Tips

Conference attendees said IT managers should:

- Think about mobile computing from the start and design all applications to fit on small screens.
- Minimize the number of mouse clicks required to support end-user interactions.
- Make sure that users can easily refresh applications over 20Kbit-to-40Kbit/sec. connections.
- Build in multiple layers of data security capabilities.

But Griffin added that IT managers also have to think through how to deliver all of Boeing's applications so they can be used on small LCD screens. That includes the applications now used by Boeing's engineers on high-end scientific workstations.

Lance Perry, vice president of IT infrastructure at Cisco Systems Inc., said the networking vendor has about 30,000 remote users in 100 countries. "Even 9-to-5 workers have mobility needs when they go home," he pointed out.

Corporate IT executives can't afford to ignore or dismiss mobility requirements because of ROI concerns, Perry advised. Mobile computing capabilities have become "a critical component of a company's success," he said.

But Perry added that companies can better manage their costs by using wireless technology to its fullest. For example, they could give end users IP-based "soft phones" built into PCs for use in making international calls over public-access wireless LANs.

Ken Venner, CIO at Broadcom Corp., an Irvine, Calif.-based semiconductor maker, sees the growing ubiquity of public-access WLANs as a boon to laptop-toting mobile workers. He said it's up to IT departments to ensure that business users have access to solid, secure connections, no matter where they're working.

But Venner also emphasized the downside of wireless networks: security risks. Protection from security threats needs to be built in from the start, not as an afterthought, he said. **44916**

Pentagon Taps Linux Supercomputer

Linux Networx to build cluster for weapons research

BY TODD R. WEISS

Linux Networx Inc. is building a high-performance, 2,132-CPU Linux cluster supercomputer for the U.S. Department of Defense as part of an IT modernization program being undertaken by the agency.

In an announcement last week, Bluffdale, Utah-based Linux Networx said the Evolocity II cluster will be used by the U.S. Army Research Laboratory Major Shared Resource Center as part of the DOD's High Performance Computing Modernization Program. The supercomputer will be used to increase the research capabilities of the lab, said Charles Nietubicz, acting deputy director of the computational and information sciences directorate at the Army Research Laboratory.

The system, being built at the Aberdeen Proving Grounds in Aberdeen, Md., will be used for weapons research, including calculating projectional dynamics for weapons systems, simulating battlefield weather and forecasting battle survivability, he said. It will also be used by the lab to help develop advanced technology for the U.S. military.

The lab looked at several supercomputer vendors that bid for the contract and selected Linux Networx after reviewing many performance criteria, Nietubicz said. "The Linux Networx system gave us the best choice for what we wanted to do," he said.

The system, scheduled to be completed by the middle of the year, will consist of 1,066 nodes, each equipped with two Intel Xeon 3.6-GHz processors and 1GB of memory per CPU. The system will use Intel's 64-bit extension technologies.

Linux Networx is also scheduled to deliver five other cluster systems to other Defense Department agencies later this year under the modernization program. The cost of the systems isn't being disclosed.

"Linux Networx has proven [that] cluster technology is reliable, robust and mature enough to be selected even in the most demanding environment," said Thomas Kendall, lead systems engineer at the Army Research Lab. "This system will be a key component of the [lab] and the entire DOD modernization program."

As part of the technology update program, Linux Networx last year delivered to the lab a 256-processor cluster named Powell. **44914**

DOD Signs Deal To Automate Security Reviews Of Its Web Sites

WASHINGTON

Coast Software Inc. last week announced that it has struck a deal to provide the U.S. Department of Defense with its Web Quality Central software to automatically scrub military Web sites for sensitive operational information and ensure adherence to privacy policies.

The U.S. Army, Air Force and Navy have deployed Coast's software as a means of adhering to internal Defense Department guidelines on the management of Web content, as well as portions of the e-Government Act of 2002.

That law requires federal agencies to adhere to Office of Management and Budget guidelines on protecting the privacy rights of Web site visitors.

Pentagon officials declined to comment on the agreement.

Coast Web Quality Central is an enterprise application that offers summary reporting for an executive view into areas such as Web site privacy, operational security and accessibility compliance.

The software also offers Web-based reports on trend analysis. Users can license and deploy the software on their own networks or have Coast Software host and manage it.

The Ottawa-based company released Version 3.1 of the software last month. The new release includes enhanced functionality, such as the ability to enforce compliance rules on non-HTML page content.

The software is also designed to enable users to identify privacy and operational security violations contained within Adobe Acrobat PDF files and Microsoft Office documents.

– Dan Verton

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Continued from page 1

Offshore

sourcing vendors has yet to be established by the financial services industry, the vendors often compete on generic services such as business-continuity planning. The idea is for the provision of those basic services to be standard fare and for vendors to compete on industry-specific services that can give their financial services clients a competitive advantage.

The intent is to "commoditize the basics and encourage competition in the real value-added aspects of the business," said Jim Salters, director of technology initiatives and project development at the New York-based Financial Services Technology Consortium (FSTC), which has organized the effort.

Vendors Benefit, Too

The development of baseline practices will also help vendors, said Arshad Sayyad, director of the financial services practice at Cognizant Technology Solutions Corp. Sayyad lamented that users are inconsistent in their basic requirements; the lack of standard practices "creates a lot of burden on the vendor side as well," he said.

Baseline requirements and definitions would let vendors know what they have to adhere to, said Sayyad, whose Teaneck, N.J.-based company operates major offshore development centers in India.

By working together and sharing their knowledge with one another, financial services companies will be able to avoid making the same mistakes "and maybe learn from successes," said Guillermo Kopp, an analyst at Needham, Mass.-based TowerGroup.

The participating financial institutions may well agree on a shared-services approach to some aspects of offshore work. For instance, all of the companies routinely assess overseas political and environmental risks. Instead of gathering that information separately, they may develop a means of gathering it collectively and sharing it.

The FSTC has developed a 10-page prospectus outlining potential project deliverables based on initial input from participating financial services companies. The areas in which baseline practices may be established include the following:

- Physical, information and personnel security, including background checks
- Networks and telecommunications
- Business continuity
- Exit strategies
- A means of safeguarding intellectual property
- Software change management

At next week's meeting, the participants are expected to nail down their objectives and commit financing for the project. Companies that want to participate will be asked to contribute $10,000 to $15,000 each, depending on how early they sign up. Vendors that want to participate will pay double what users pay.

The goal is to complete most of the work by the end of this year, but there's much to be accomplished. Salters acknowledged that the effort is still largely "a twinkle in our collective eye."

But the benefits are alluring. For instance, in developing a means of assessing risk, financial services firms could agree on a common vocabulary and way to measure risk.

Similarly, while the firms are unlikely to share information on employee background checks, they "could agree on a baseline for what needs to be part of that check," Salters said. **44912**

> **"[The intent is to] commoditize the basics and encourage competition in the real value-added aspects of the business.**
>
> **JIM SALTERS**, FINANCIAL SERVICES TECHNOLOGY CONSORTIUM

Continued from page 1

Mobile Merger

the devices by year's end.

Keith Glennan, CIO at Northrop Grumman Corp. in Los Angeles, said the aerospace company also needs to use multiple cellular carriers to meet its coverage requirements. Speaking at a CIO forum on wireless technology at the University of California, Los Angeles, Glennan added that Northrop Grumman has successfully lobbied carriers to build cellular towers to serve facilities it operates outside of metropolitan areas.

Cingular's purchase of AT&T Wireless "will not solve all the coverage problems," said Peter Firstbrook, an analyst at Meta Group Inc. But he added that IT managers "might only need two carriers" once the deal is completed, a process that isn't expected to occur until late this year at the earliest.

Firstbrook also predicted that the planned acquisition could slow the installation of AT&T Wireless' new EDGE high-speed service because the combined company will initially have to address other business issues.

EDGE, a name derived from the phrase "enhanced data rates for GSM evolution," is an extension of the Global System for Mobile Communications (GSM) standard. AT&T Wireless launched the high-speed network in November and said it offers average throughput of up to 130Kbit/sec. in areas that have a total population of 215 million [QuickLink 43036].

Cingular, a joint venture of SBC Communications Inc. and BellSouth Corp., also uses EDGE technology, in a high-speed service that it currently offers only in Indianapolis. Stan Sigman, Cingular's president and CEO, said in a statement that the acquisition will accelerate the availability of advanced wireless services and result in wider coverage, improved reliability and better call quality for users.

But economies of scale are the primary reason for the merger, said Craig Mathias, an analyst at Farpoint Group in Ashland, Mass. Mathias said the deal should help the bottom lines of all the major cellular carriers by reducing the competition that had spurred numerous discount service plans.

"No other country in the world had six wireless carriers," he noted. **44909**

Cingular/AT&T Wireless Deal

Purchase price:
$41 BILLION IN CASH

Combined annual revenue:
$32 BILLION

Coverage area:
97 OF THE TOP 100 U.S. MARKETS IN 49 STATES

Total number of end users:
46 MILLION

High-Speed Net Access Spotty

Some early users of AT&T Wireless' EDGE data service said they have had problems accessing the high-speed network in certain locations, including New York, Los Angeles and other large metropolitan areas.

AT&T Wireless boasts that its EDGE service is available in about 6,500 cities and towns and in areas along 30,000 miles of interstate highways. But Chris Darrell, vice president of information systems and services at Genex Services Inc. in Wayne, Pa., said EDGE availability is "not as high as we had anticipated."

Genex, which offers medical case management services to insurers, plans to deploy about 1,000 EDGE cards for use in notebook PCs to its field sales force and case management nurses during the next 12 months. The Web-based Genex Case Management System doesn't operate well over 56Kbit/sec. dial-up connections, which is one reason why Darrell decided to go with EDGE.

But based on trials with about 75 end users, "even in metropolitan areas where we thought we would get a pretty good signal, we have found no or poor signals," Darrell said. He added that AT&T Wireless has been "very responsive" to complaints and has set up a team to try to resolve his coverage problems.

Slow Airport Connections

Carl Oppedahl, a patent attorney at Dillon, Colo.-based law firm Oppedahl and Larson LLP, said he has had access problems with EDGE while traveling on business. Oppedahl said he has unsuccessfully tried to connect to the high-speed network at airports in New York, Denver, San Francisco, Los Angeles, Palm Springs, Calif., and Portland, Ore. Instead, he received a slower-speed GPRS signal, for which he carries a 1Xrtt card from Sprint PCS Group.

Nonetheless, Oppedahl said that he's generally satisfied with the EDGE service, especially its monthly rate of $79.99 for unlimited data transmission.

Ritch Blasi, a spokesman for AT&T Wireless, acknowledged that EDGE coverage could default to GPRS in some areas because of weak signals. He added that network performance depends on the amount of traffic that a particular cellular tower is supporting.

– Bob Brewin

Browser Hole Discovered After Code Leak

BY JORIS EVERS

A bug hunter last week claimed to have uncovered a security flaw in Microsoft Corp.'s Internet Explorer 5 Web browser by studying Windows source code that was leaked earlier this month.

The vulnerability allows an attacker to gain control over a user's computer by using a specially crafted bitmap file. When loaded using IE 5, the file will trigger an overflow error and allow the attacker to run arbitrary code on a victim's machine, according to a description of the flaw posted Feb. 15 on the SecurityTracker.com Web site. The flaw, which was uncovered by reviewing IE source code that was part of a larger Windows code leak, exists in all versions of IE 5 for all Windows versions, according to the description.

Millions of Internet users — 17% of Internet users worldwide — have some version of IE 5 installed, according to Web tracking company WebSideStory Inc. in San Diego.

Future Ramifications

Thor Larholm, a senior security researcher at PivX Solutions LLC in Newport Beach, Calif., investigated the report and tested code to exploit the flaw, and he confirmed the vulnerability.

The IE 5 problem highlights the security implications of such code leaks, which a hacker could use to find security holes, Larholm said. "This has definitely proven the potential for critical vulnerabilities," Larholm said.

Microsoft began investigating the vulnerability report on Feb. 16. The company had discovered the security problem internally before and fixed it in IE 6.0, according to officials.

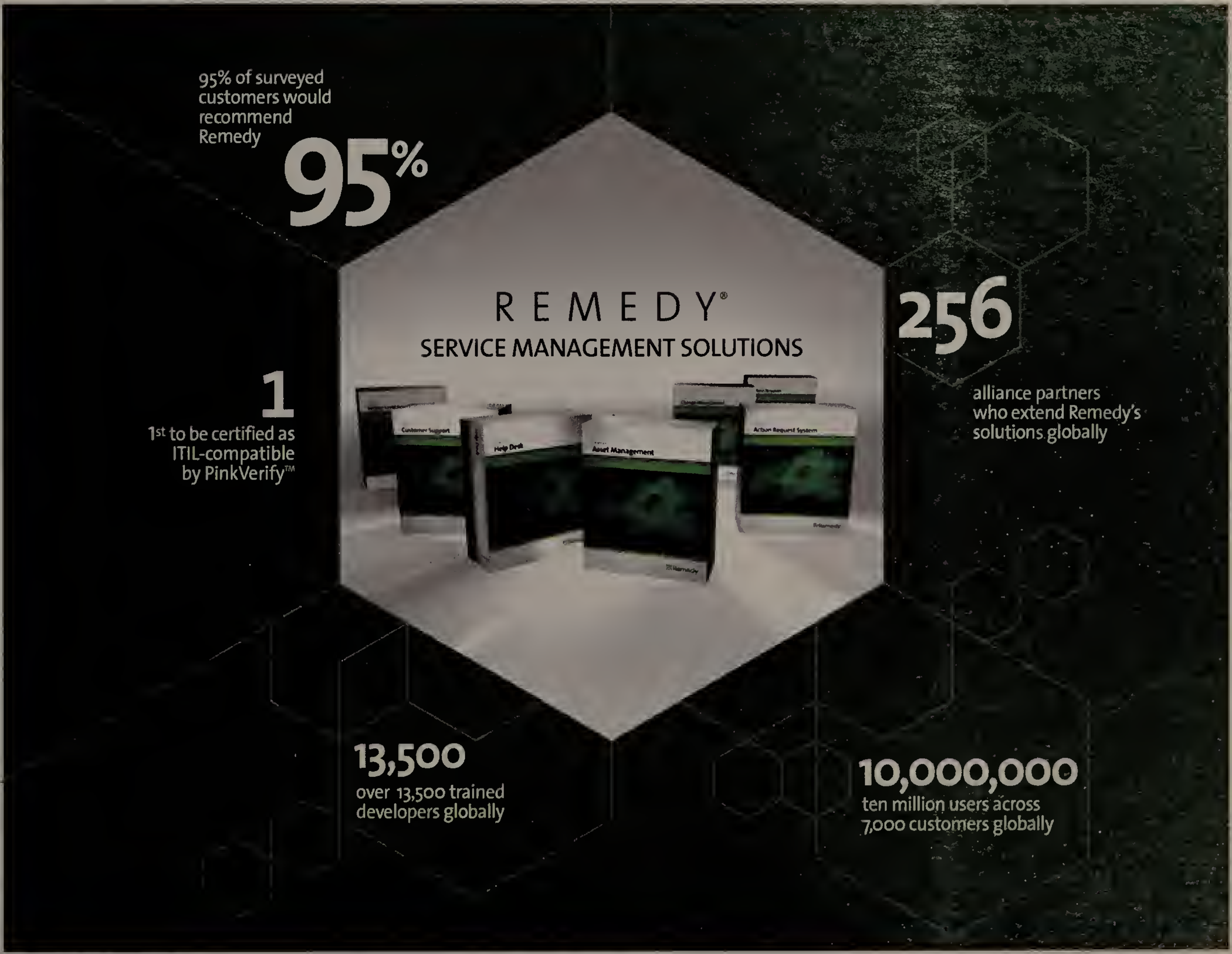
The vendor urged IE 5 users to upgrade to IE 6.0 with Service Pack 1. However, IE 5.01 with Service Pack 2 is still supported, according to Microsoft's product support Web page. The company is working on a patch for this and versions of the Web browser that predate IE 6.0 and is investigating why it didn't fix the flaw in those versions before, a Microsoft spokesman said.

Microsoft confirmed earlier this month that incomplete portions of its closely guarded Windows NT and Windows 2000 source code had been leaked on the Internet.

Analysts and security experts at the time warned that a breach of the Windows source code could expose users to an increase in cyberattacks because it would make it easier for hackers to find holes in the operating systems that they could exploit. ◯ 44850

Evers writes for the IDG News Service.

Strength in Numbers.



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MARYFRAN JOHNSON

Paying More for Less

LIKE OBLIVIOUS REVELERS in the last days of the Roman Empire, enterprise software vendors are enjoying themselves at customers' expense with ever-increasing maintenance fees, overpriced support costs and forced-march upgrades. Imagine their shock when this party comes crashing to its inevitable end.

MARYFRAN JOHNSON is editor in chief of *Computerworld.* You can contact her at maryfran_johnson@computerworld.com.

And there are portents of that fate already appearing.

Consider the sobering results from an AMR Research survey of 202 users of enterprise business software, which we reported on our front page last week ["ERP Users Bristle at Upgrade Pressure, Maintenance Costs," QuickLink 44755].

More than a third of these users (38%) are now training internal IT staffers to provide the necessary tech support for their applications. Some 35% intend to renegotiate maintenance contracts they can no longer abide, and a truly desperate minority (12%) has decided to quit paying for maintenance altogether. That's akin to canceling your homeowner's insurance and hoping your house doesn't catch fire.

AMR analyst Jim Shepherd said that nearly one quarter of the survey respondents were sorry they'd even upgraded their software packages, because they got no additional business value from the new features. CIOs want to show their boards that they're doing more with less — not paying more for less.

Now, you could argue that users have always complained about maintenance and support fees. But in the past few years of this brutal economy, the applications vendors have steadily increased those costs to make up for declining sales. Annual software maintenance fees that once accounted for 7% to 10% of licensing costs have moved uptown into the 17%-to-25% range.

"If the vendor wants more fees for the same service and the same software, then that is not a good deal," observed CIO Irving Tyler at Quaker Chemical Corp., who is training more internal staffers to support his ERP system so he can trim costs. After suffering through three years of increasing maintenance bills, Quaker is considering a freeze on upgrades.

Like other IT executives we talked to, Tyler didn't single out any one vendor for criticism, because they're all guilty of increasing their fees.

Everybody is noticing longer, tougher negotiation cycles these days, and some companies are simply taking a pass on early-bird discounts for new software packages. Instead, they're opting for "just-in-time" purchasing plans to avoid paying unnecessary fees on what can become idle shelfware.

"It's a time-delay issue. The more you buy, the better the deal you get upfront, but the more maintenance you pay down the road," notes Gartner analyst Scott Nelson [QuickLink 43585].

An earlier AMR study in 2002 showed that 20% to 50% of the maintenance fees collected by the top 10 ERP vendors actually went toward development of future releases — not additional customer support. In 1996, maintenance fees accounted for 18% of annual revenues for the application vendors. By 2000, AMR found it was up to 25%, and it's on a trajectory to hit 30% next year.

Whatever the future holds for enterprise software, this practice of paying more for less can't endure. Perhaps the buy vs. build pendulum will swing back with a vengeance from packaged applications to internally developed ones.

Maybe the service-provider model (à la Salesforce.com) will triumph as more application functions become commodities. Open-source alternatives (such as the Java Desktop System vs. Windows) could provide yet another escape hatch for users determined to break the cycle.

If the enterprise software vendors keep on fiddling while their customers feel burned, they're doomed to repeat one of those lessons of history. The one about how fast empires can fall.

44870

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PIMM FOX

Don't Ignore IP VPN Security

WITH LOWER operating costs, network management bells and whistles, and stringent service-level agreements, an IP VPN can be a boon.

But what about the nasties?

Let's say you've replaced your frame-relay hub-and-spoke network with a shiny new IP virtual private network. Before you made this change, you weren't using your WAN efficiently, since all network traffic had to pass through headquarters before being routed to the appropriate recipients. And you were exceeding the bandwidth for your frame-relay network, nudging up costs that were high compared with those of an IP VPN.

PIMM FOX is a freelance writer in Santa Barbara, Calif. Contact him at pimmfox@pacbell.net.

But where's your e-mail defense? What's up with your firewall and intrusion-detection/prevention operations? And sorry to be a nag about it, but what about virus scanning and incident response?

It's still possible for the managed IP VPN model you've adopted to make life easier for you, but you've got to have a serious talk with your IP VPN provider. No matter which type of VPN you have — whether it's a managed, network-based IP VPN using a single provider's IP backbone, a managed-service VPN, or a VPN that uses different ISPs but is packaged and served up by a single entity — you've got to address security.

Carlos Ramirez, director of global network services at Santa Clara, Calif.-based Extreme Networks Inc., was confronted by many security issues. They mostly involved fending off spam and viruses at 68 sites around the world. He opted for a managed IP VPN service from Virtela Communications Inc. in Greenwood Village, Colo.

"We are getting 200,000 e-mails a day, and 70% of it is spam," he says. But because all the filtering and virus-detection gear and software are at

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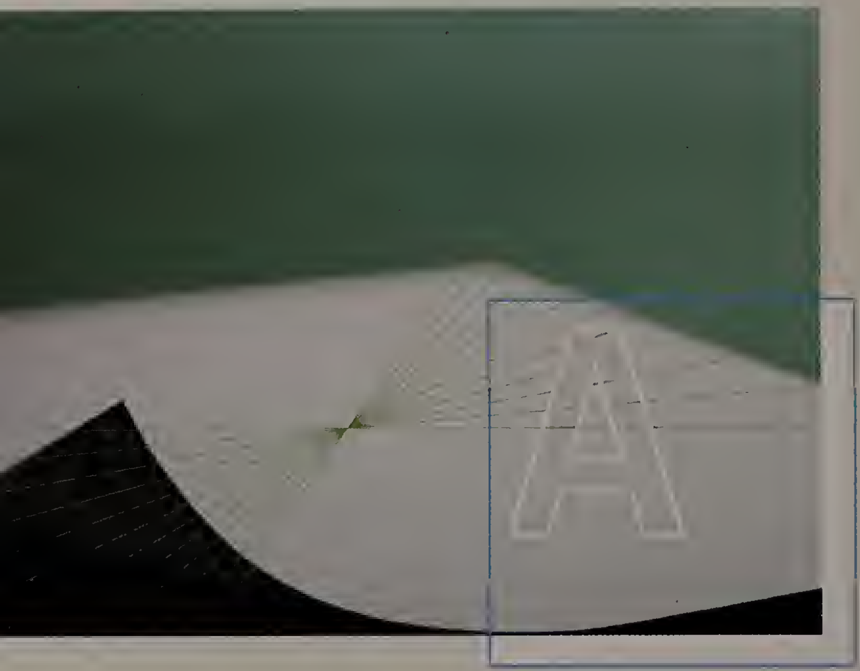
v.12, issue 2 | COMPUTERWORLD QUARTERLY
EXECUTIVE REPORT

STORAGE EDUCATION SERIES
Part II: Specifying Requirements

COMPUTERWORLD



STORAGE EDUCATION SERIES by Jon William Toigo

Part II: Specifying Requirements

Ever visited a friend's data center? Except for a few Fortune 500 shops, in which obsolescence and forklift replacement is being planned into acquisitions, most IT equipment rooms have racks of storage gear of various types, brands and vintages. If you use a little imagination, the faceplates of the rack-mounted hardware may resemble the colored striations found in the walls of deep caves or the Grand Canyon. If you know anything about the procession of storage products over the past decade, you can probably deduce the approximate dates that your friend made his storage acquisitions in much the same manner as a geologist reckons time from layers of silt in the canyon wall.

Given ten years of purchasing basically whatever storage products the industry, trade press or analysts portrayed as the "next big thing" (until the next "next big thing"), it is not surprising that most data centers present heterogeneous storage infrastructures. Effective storage management remains elusive in these shops since little priority was placed on the manageability of gear at the time that acquisitions were made.

You have to wonder whether more effort in matching storage to specific application requirements – including a management application – might not have prevented some of the pain confronting storage administrators today.

Between 65 and 75 cents of every dollar budgeted for IT hardware goes to storage. And this expense is only a fraction of the actual cost of storage to companies.

The cost of labor is the largest component of storage total cost of ownership (TCO). Misguided efforts to address the problem of heterogeneous storage management by purchasing more storage have met with little success. History has proven that you cannot achieve a greater degree of utilization efficiency or less disruptive provisioning of storage to burgeoning application data simply by adding arrays or SAN switches.

The key to interrupting the TCO spiral is to specify business-relevant storage requirements before making purchases. However, a number of hurdles exist that make requirements specification an enormous undertaking. These include:

- A lack of business process application knowledge – especially for storage requirements of specific applications and data
- Confusing analyst and vendor guidance
- The absence of meaningful standards in storage technology
- Limited independent test data on technology alternatives
- Mediocre management software stacks for effective, data-centric, storage management

IT managers and storage administrators need to do everything they can to specify requirements that will guide them toward a better-managed and more cost-effective infrastructure.

Anatomy of a Requirements Specification

Technology acquisitions – including storage – require a solid business value case. Purchases must be justified by sound arguments for cost-savings, risk reduction and business enablement.

Storage managers need to "prove" in advance that a new technology acquisition will save money over the status quo. Moreover, the new acquisition should reduce risk by safeguarding against early technology investment obsolescence and by reducing storage-related downtime. Finally, it must be shown that the new technology will improve the efficiency of business process execution and foster the business objectives.

Only by tying technology to a well-defined business value case is a proposed purchase likely to gain approval. The importance of mapping storage technology to business processes is the first component of a value chain that ensures corporate investments in technology yield real and measurable returns. The requirements specification is where the benefits of the business-technology nexus are created.

Building a Status Quo Model

About the only way to obtain an understanding of business requirements is through field

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analysis, meaning you must talk with business managers. Examine their current processes and workflows, and determine what technology is used. From this investigation, you will begin to develop the business process support requirements and how they are addressed. You can then begin to build a model of the status quo.

Status quo models are best built on a business process-by-business process basis. Fortunately most business processes depend upon a discrete application with its own underlying infrastructure. Such "stovepipe" architecture simplifies modeling. However, in a few cases, business processes may depend on a mixture of interdependent applications and infrastructure, creating a greater challenge.

Building a status quo model requires that you, first, summarize the business process and the business goal(s) that the application is supporting. If you are creating a requirements specification for a new line of business or a new application, you will need to discover and document the intended business goals. This information is key to defining the specific objectives for the technology you will be evaluating.

Next, you need to characterize the inputs and outputs of the application. Discover what input data the application uses, where it comes from and what is done with it. Then, determine what outputs or data products are generated by the application, where they are sent and learn what you can about the characteristics of the output data itself, including its access requirements and its "inherited" characteristics.

Access requirements are important data characteristics because they determine how the data needs to be hosted. Data that is accessed and updated on a frequent basis may be best hosted on a high performance storage platform, while data that is accessed less frequently can be hosted on less expensive Serial ATA platforms. The number of applications, or end users, that share access to data also has an impact on the selection of the best topology or architecture.

You also need to consider what attributes output data "inherits" from the application that creates it and/or the business process it serves. If the application that originates the data is mission-critical, chances are good that its output data is also mission critical. This may influence other aspects of how the data is hosted in the storage infrastructure and whether it is included in various data protection and recovery schemes.

Data may also inherit characteristics that are derived from regulations. Long-term, on-line, data retention may be required by financial and healthcare laws. Data encryption may be required to satisfy privacy regulations, or non-repudiation, to address audit requirements.

With output data characteristics identified, you need to assess the performance of the status quo infrastructure in terms of its speeds, feeds and downtime. This requires the measurement of application performance in its status quo infrastructure and the expression of results using appropriate metrics.

In some cases, it may be helpful to install performance measurement software tools to calculate "round trip" times for important application calls. In other cases, you can simply reference business manager accounts of how much work gets done in a day.

Downtime is another key metric to capture in your requirements analysis. Studies by Intel Corporation suggest that 55 percent of server downtime is the result of storage-related causes. You need to learn how often outages occur and what is their average duration.

With this information, you can estimate the cost associated with the application support infrastructure and downtime. The cost of downtime, even interpreted narrowly as idle labor cost, can be significant according to a META Group study. In their 2001 study, the analysts pegged the hourly average cost of idle labor at slightly more than $1M across all industries. Bottom line: downtime costs provide meaningful input into the costs of the status quo and help to establish some budgetary criteria for evaluating alternatives.

Beyond Business Process Factors

A status quo model is not complete until you identify and price the hardware and interconnects that link business applications with data storage infrastructure. The reporting tools shipped with many storage resource management (SRM) software products can be of enormous value.

SRM tools can help you discover all the components of the storage infrastructure that support the application. You may also be able to glean performance information about the infrastructure expressed as I/Os per second.

A good understanding of topology may assist you in seeing the entire support infrastructure, including both hardware and software. With the help of asset tracking tools, you can assign a depreciated cost value to each of the components that are used in delivering service.

The storage cost of ownership does not equal aggregated hardware and software acquisition and deployment costs. Administration and management – manual labor required to keep the infrastructure in proper operating condition – comprises the bulk of actual TCO.

Research into the costs of the status quo infrastructure must therefore include an appraisal of labor costs, which can only be ferreted out by asking IT personnel how storage is managed and administered and how much time tasks such as provisioning and protection consume. You need to ask storage administrators what tasks they perform, how long they spend on each task and their salaries.

This data, combined with the business process/application-facing information collected earlier, is required to model the status quo. Results can be expressed in the form of TCO spreadsheets, but – more appropriately – in the form of cost-per-transaction or some other business-savvy metric.

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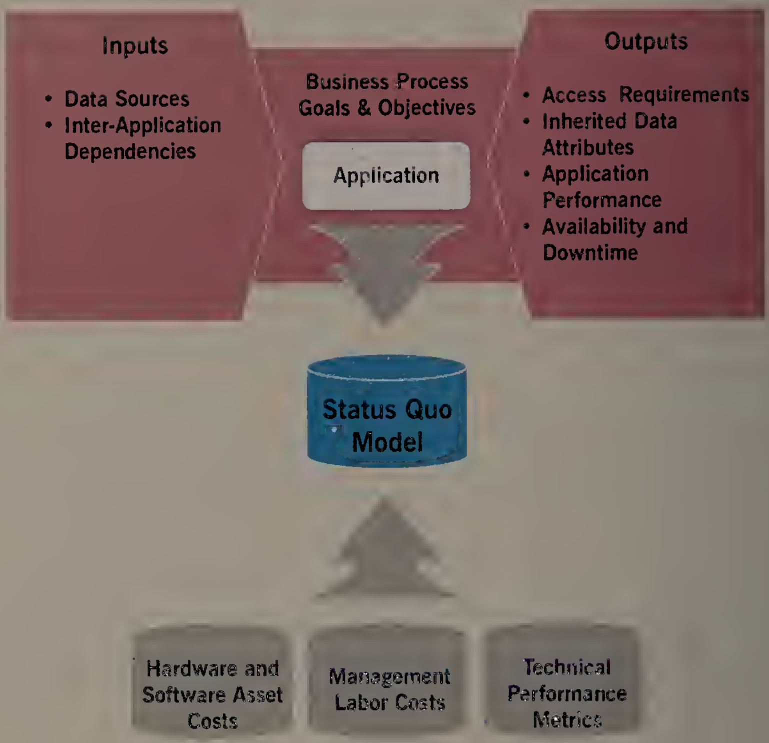

Inputs
• Data Sources
• Inter-Application Dependencies
Business Process Goals & Objectives
Application
Outputs
• Access Requirements
• Inherited Data Attributes
• Application Performance
• Availability and Downtime
Status Quo Model
Hardware and Software Asset Costs
Management Labor Costs
Technical Performance Metrics

Using the Status Quo Model to Build Objectives

With the status quo model in hand, you can begin building objectives that will be used to vet alternative technologies. Often this begins with a goal statement: "We want to reduce our TCO by 30 percent" or "We want to drop our per transaction cost by 20 percent." Underlying objectives might include more technical metrics such as "improving capacity allocation efficiency by 20 percent" or "enhancing utilization efficiency by 40 percent."

Goals and objectives should be stated in performance language to facilitate comparisons between competing solutions.

Performance language objectives specify criteria, task and standards. For example: "Given a requirement to replicate data at a distance of 80 miles at the lowest possible cost in such a way that meets or exceeds a recovery time objective of five minutes, the solution will satisfy distance, cost and recovery time requirements in accordance with corporate standards and best practices."

- **Criteria:** The first part of the statement sets criteria for judging alternatives (e.g., replication over an 80 mile distance, low cost and recovery time objective).
- **Task:** The second part sets the task (the solution will satisfy certain requirements). One might also add a timeframe for solution implementation or details about the deployment process.
- **Standards:** The third part indicates the standards to which the solution will be held. The standards component may also include a metric for measuring success (e.g., numbers of transactions, I/Os per second, etc) and references to specific open standards.

The more specific the objective, the greater its utility in fielding responses to a request for information (RFI) or request for proposal (RFP) once specifications are released for bid. A well-written objective will also include sufficient criteria for testing the solution prior to or following acquisition and deployment.

In addition to helping in the formulation of objectives, having a good model of the status quo provides a necessary baseline data for performing any type of comparison. Bottom line: you need it to predict the benefits that will accrue to whatever strategy is ultimately selected for reducing costs and improving performance.

Hurdles Remain

With baseline data collected, a model of the status quo environment created, and goals and objectives for improvement developed, it should be a simple matter to build a request for proposal and to identify potential candidate technologies for improving storage efficiency and performance. Unfortunately, this is rarely the case.

One common obstacle planners confront is that alternative solutions do not present themselves in a manner that would facilitate reasonable comparison or assessment.

For example, in many cases, vendors do not advertise the performance characteristics of their products. Some go as far as using restrictive warranty clauses to preclude consumers from making public testimonials about the performance they have received from vendor products.

Rarely are research and analysis (R&A) shops inclined to perform competitive testing of vendor products since such a practice would likely lose lucrative service contracts with the losing party. Moreover, R&A firms commonly devise sub-categories of products to enable one vendor to be represented as "best of breed" or "best in class" without depriving another the same kudos.

In those cases where test data is provided by a vendor, there is often little information about the testing methodology. Too often, vendor claims of superior performance have proven fallacious. For example, comparing how much time is required to retrieve a file from the memory cache of one network-attached storage (NAS) appliance to the time required to retrieve the same file from the back-end storage array of a competitor's product is not a fair comparison. Yet, just this type of "test data" was used recently to support a vendor's claim that its products out-performed all competitors by an order of magnitude.

Industry standards ought to provide a level playing field for product classification and performance characterization, but they seldom do. As evidenced by earlier SCSI standards, and more recently by Fibre Channel switch standards, de facto standards fall well short of guaranteeing any sort of product performance level or interoperability.

Moreover, while hardware and interface signaling standards have been a focus of considerable development, virtually no standardization of software components that are used to make hardware infrastructure purposeful exist.

Before the "storage networking revolution," storage technologies (together with all other aspects of the application hosting environment) were selected based on a careful evaluation of application requirements and the determination of which products provided the best fit. The panacea, or one-size-fits-all, mythology popularized by Fibre Channel SAN advocates, nearly succeeded in relegating this common sense approach into the dustbin of history. In the process, storage management became synonymous with capacity management.

To perform requirements specification properly in the face of so many hurdles, planners need to return the common sense best practices that served them well in the past. In the final analysis, network storage topologies are not a replacement technology, but only another set of options to consider when evaluating business processes and their storage infrastructure requirements.

Management is Key

When developing a storage requirements specification, the first objective any solution must satisfy is compliance with your chosen management strategy. The components of the proposed solution must be instrumented for management via the management software framework.

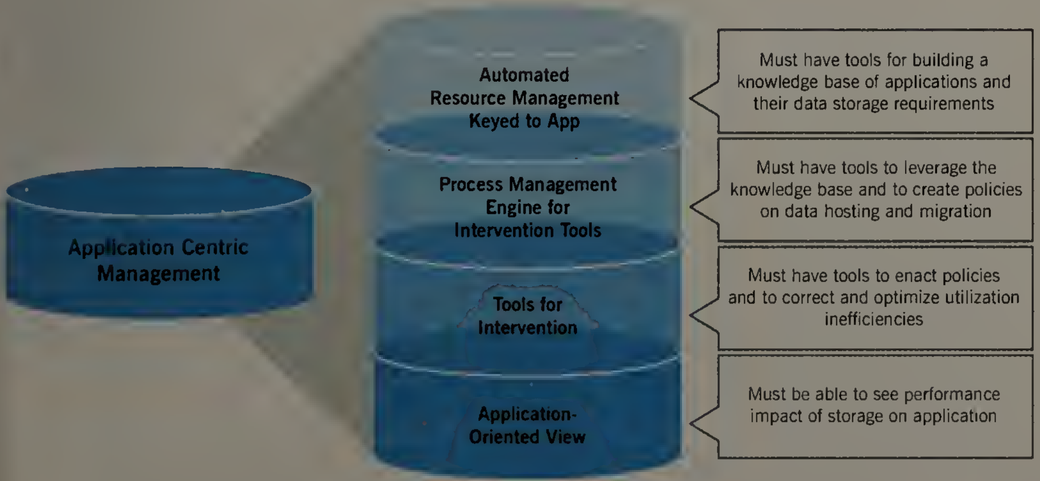
Selecting a framework comes down to the following:

- **Product cost:** Product costing needs to include software licensing and maintenance fees, and the careful consideration of collateral or ancillary costs such as training, deployment consulting services, product setup, administration, and policy creation time and disruptiveness.
- **Support for components currently installed in the infrastructure and for those anticipated for deployment in the future:** With more than 17,000 storage array products in the market, you need to choose a management framework that delivers support for your infrastructure "out of the box."
- **Ease of use:** Products should adapt to your manual approaches and workflows around storage administration rather than requiring you to adapt your best practices to the product's approach.
- **Resource requirements for deployment:** The product should not require so many resources to deploy that its deployment is routinely pushed back in the operations schedule. A deployment timeframe should be specified as part of product selection, as should an expected payback date.
- **Resource consumption during operation:** The management solution should enable you to do more with fewer staff. Moreover, product agents should consume as little server, network and storage platform resources as possible so that they introduce as little latency as possible into the system they are tasked to manage.
- **Integration of solution:** The design of the management product and its functional integration should be as seamless as possible. This means that components should share a common database and common code to the greatest possible extent.
- **Pedigree of vendor:** The market for management frameworks is not sufficient to support 270-plus competitors for very long, and consumers are right to hold out for pedigreed vendors that are likely to withstand the on-going consolidation of this market. Numerous products have recently appeared from lesser-known firms that have raised the bar for vendors of established products. Since bigger firms will likely acquire the best of the startups, their products may be a safe investment today.
- **Projected payback timeframe (ROI):** The ideal management solution is one that deploys in a couple of hours on the day that it is licensed and begins delivering business value immediately.
- **Solution efficacy:** The solution you select must work. It must enable the automation of manual tasks and provide proactive insights to prevent problems before they create downtime. Ideal solutions will be application-centric – capable of displaying infrastructure associated with a specific application to simplify modeling and troubleshooting. Flexible reporting and data export are also key.

Once a management framework has been selected, it must become a criterion in the selection of other platform components. You can evolve your entire infrastructure over time (and as a part of natural hardware decommissioning) toward a more automated and less labor-intensive model.

Conclusion

Requirements specification in storage technology solution building is not an easy task. The hurdles can seem insurmountable. Of key importance is the selection of a strategic management framework that will make from a morass of cables and controllers and switches and storage arrays a true infrastructure – one that provides applications with the services that they require at the lowest possible cost and risk. Lest this management framework be confused with "intelligence" in the popular expression "intelligent storage infrastructure," keep in mind that smart infrastructure is the result of smart choices…beginning with the selection process inherent in requirements specification.


Application Centric Management
Automated Resource Management Keyed to App
Process Management Engine for Intervention Tools
Tools for Intervention
Application-Oriented View

Must have tools for building a knowledge base of applications and their data storage requirements

Must have tools to leverage the knowledge base and to create policies on data hosting and migration

Must have tools to enact policies and to correct and optimize utilization inefficiencies

Must be able to see performance impact of storage on application

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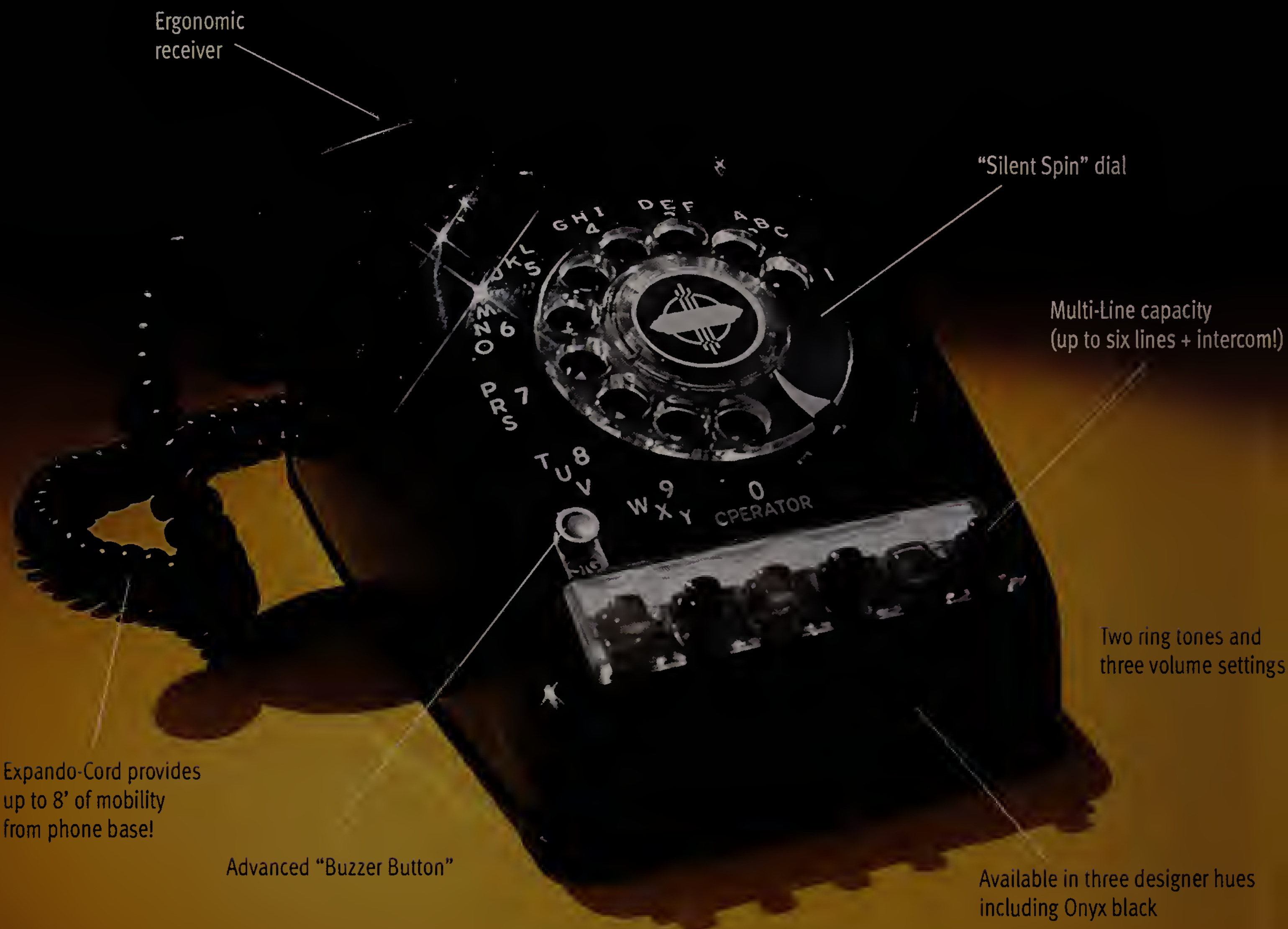
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the perimeter of his VPN, the spam doesn't even show up on Extreme's e-mail servers.

"It's getting stopped before it hits our system," says Ramirez.

Using scanning software that includes domain blacklists and special analyzing engines from a third party, Virtela thwarts attacks before they reach Extreme's VPN. "The viruses are stripped from e-mails and deleted right away, while the e-mails are quarantined to help in preventing future attacks," Ramirez says. And because Virtela is providing this service to other companies, it's able to learn about emerging threats across a broad spectrum of e-mail users and networks.

The system is also flexible enough to allow Extreme to check e-mails that haven't reached its system — a good way to combat false positives.

Ramirez says that annually, he's spending $1.2 million on the network, compared with $3 million before he implemented the package of Virtela management services.

All in all, a positive outcome for Extreme. **44801**

DAVID MOSCHELLA

Political Rhetoric Has Run Amok

"Together we will build a prosperity . . . where we create jobs here at home and where we shut down every loophole, every incentive, every reward that goes to some Benedict Arnold CEO or company that take the jobs overseas and stick Americans with the bill."
— **Sen. John Kerry (D-Mass.),** after winning the New Hampshire presidential primary, Jan. 27, 2004

"They qualify as one of the Benedict Arnold companies exporting jobs overseas."
— **An anonymous American Express employee** quoted in *Computerworld*, Feb. 9, 2004

NOW, let me make sure I've got this right: In 1780, an embittered U.S. Major Gen. Benedict Arnold plotted to surrender to the British the critical colonial army fortress at West Point and its 3,000 soldiers in exchange for £20,000. When his scheme was exposed, he switched sides, became a British general and then fought against the revolution. In contrast, American Express is said to be considering moving some of its U.S. software development activity to another country.

DAVID MOSCHELLA'S latest book is *Customer-Driven IT: How Users Are Shaping Technology Industry Growth.* Contact him at **dmoschella@earthlink.net.**

This isn't just a case of rhetorical excess. Although he seems to have been badly mistreated by his peers prior to his defection, Arnold ultimately committed the most unforgivable of crimes, and had he not fled to England, he would have been executed. No one is suggesting that companies that outsource jobs are doing anything the least bit illegal. The worst that they can be accused of is coldly pursuing their own perceived interests at the expense of some of their U.S. employees.

The remarks of Sen. Kerry, the leading Democratic presidential nominee, are especially unfortunate. Are CEOs traitors because they transfer jobs overseas, or are they traitors only when they do it by taking advantage of loopholes, incentives and rewards that stick American taxpayers with the bill? A casual listener might well infer that corporate tax breaks provide a strong incentive to move jobs overseas, and thus ending any such schemes would deliver a significant remedy. Does anyone, let alone Kerry, really believe this?

Perhaps even more bewildering, Kerry has spent the past 20 years in the U.S. Senate, the very place where any such loopholes must eventually be codified. Let's assume the worst case: that corporations have lobbied for special offshore tax breaks, which politicians have reluctantly approved. Even here, who would be more at fault, the corporations aggressively pushing for whatever they can get, or the politicians who ultimately betray the public interest for their own fundraising needs? From this perspective, it would seem that Benedict Arnold might not have been the best of political analogies.

In a column last August [QuickLink 40327], I noted that most of the IT community defended globalization when it affected workers in the automobile, textile and other industries, but all this changed the moment jobs in the IT industry began to be affected. This can be seen as either hopelessly hypocritical or simply human nature. My concern all along has been that the rhetoric would get out of hand, especially during an election year.

While the issue of offshore outsourcing will remain complex, emotive and newsworthy, we might want to keep in mind that there really aren't many villains here, except perhaps those committed to creating them. As a longtime Massachusetts resident, I know that Kerry isn't generally prone to such ill-considered remarks. Perhaps it was just the heat of the campaign. And perhaps in the future, *Computerworld* might choose to quote less inflammatory, but no less concerned, IT employees. **44718**

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READERS' LETTERS

Who's to Blame for Failed Outsourcing?

I'M SURE that internal resistance to outsourcing exists; it would hardly be a surprise ["Internal Resistance Can Doom Offshore Projects," QuickLink 44256]. But one shouldn't forget the old maxim, "Never attribute to malice what can be rationally attributed to incompetence." When management outsources, it's essentially turning business over to a third-party vendor with its own goals and agendas. When the outsourced task is as complex and communication-dependent as high-tech tasks usually are, plenty of problems can arise when the outsourcing is done in the same country. Putting the task overseas into a different business culture is assuredly not going to make it easier to manage. Some high-tech managers can't get their projects finished effectively when they're in the same building, so putting them on another continent won't help their success rate.

Sheryl Smith
Chief testing geek, TestDesigns Inc., Santa Clara, Calif., sheryllsmith@earthlink.net

THE OFFSHORE consulting firms have certainly thought of everything. Rather than ever admit that the work effort and expertise of their offshore personnel isn't all it should be, they can just say that "internal resistance" is the reason for failure. It's always somebody else's fault.

Greg Mahan
Clinton, N.J.

IN THE ARTICLE "Internal Resistance Can Doom Offshore Projects," Rick Pfeiffer claims that 60% of offshored projects that fail can be blamed on some (local) worker tied to the project. Sure, and as everyone knows, 76.3% of all statistics are made up.

I have a better statistic, and it's true: Top management is in charge of 100% of all IT projects that fail. First they push a hopeless IT project with no relation to the real world, and it fails. Then they fire most of the local workers and announce that they are offshoring IT projects, to the loud acclaim of industry pundits and stock analysts everywhere, while the CxOs rake in millions in stock options. Then, when the offshored IT projects also fail, they blame it on the few remaining local IT workers.

Terrence Vaughn
Senior programmer/analyst, Garretson, S.D.

Resist the Hype

CRYING WOLF would seem a risky course for vendors ["Antivirus Software Vendors Fuel Mydoom Hype," QuickLink 44430]. There's already enough mythology circulating on the Web. We need to be able to trust security experts to refrain from the hyperbole that is often exercised by the news media.

Michael W. Riley
Assistant operations manager, The Lightship Group LLC, North Kingstown, R.I.

An Unseen Threat

I WOULDN'T be too quick to discount the collective importance of home and small-business users to the cyber infrastructure ["New DHS Cyber Alert System Draws Friendly Fire," QuickLink 44425]. As the base of home and small-business broadband users increases, so does the bandwidth available for launching cyberattacks. Most home and small-business users don't possess the budgets or knowledge for protecting their available bandwidth and are often unaware of any illicit use of their resources. For the benefit of all, perhaps we should reconsider where the weakest link actually resides and include them in our educational best practices and alert efforts. We might all be surprised at the amount of cooperation received and just how big a collective hole we could patch.

John McCracken
Security research consultant, McCracken Associates, San Antonio

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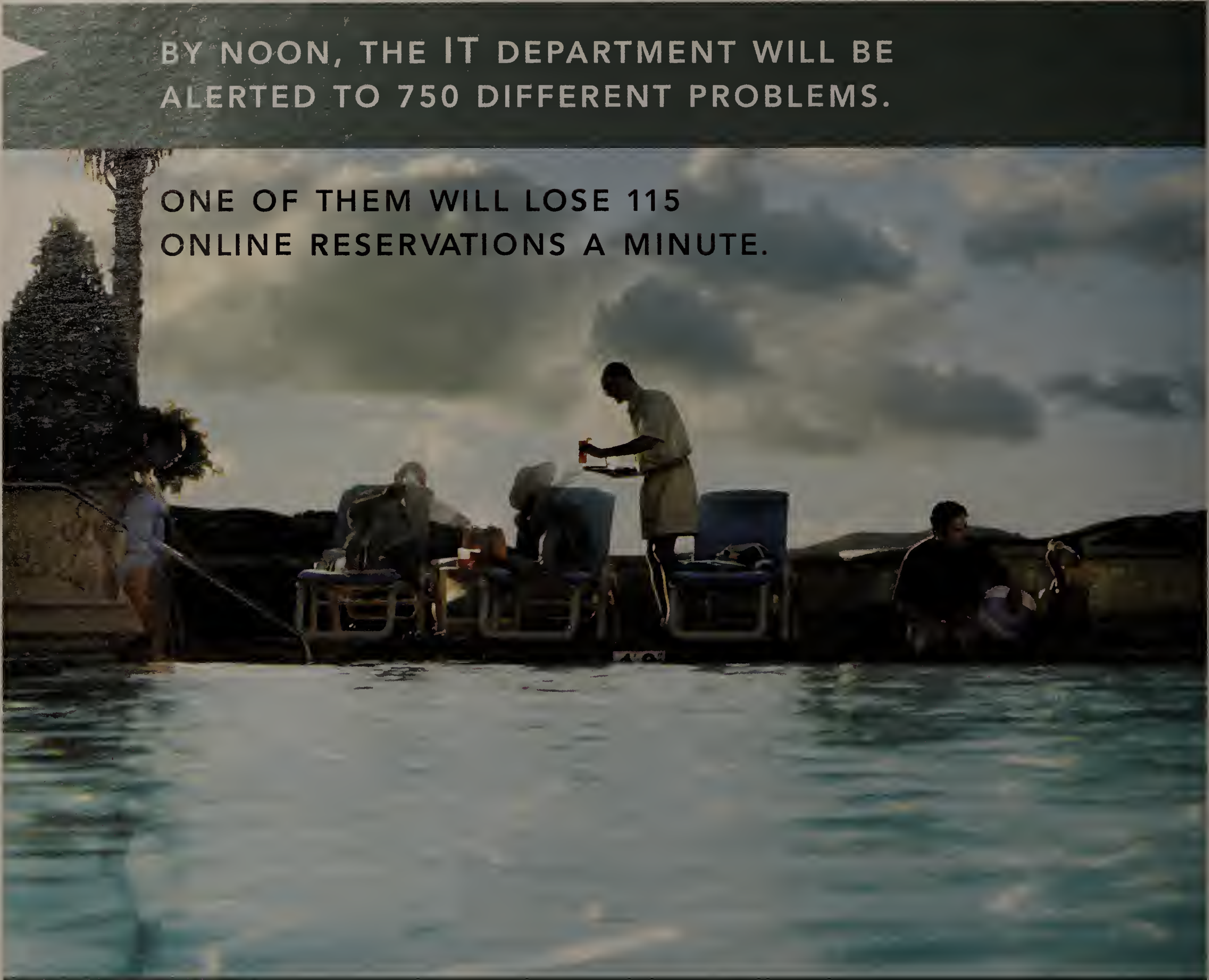
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TECHNOLOGY

EMERGING TECHNOLOGIES

Copper Tops 10 Gigabits

A new specification supports 10 Gigabit Ethernet interconnects for short runs in the data center. **Page 26**

SECURITY MANAGER'S JOURNAL

E-mail Gateway Works Too Well

The security system deflects thousands of Mydoom-infected e-mails — but then bombards users with thousands of alerts. **Page 30**

Q&A

Innovation Drives the Desktop

Dell technology strategist Brian Zucker says several emerging technologies will make the next generation of desktops and laptops faster and more compact. **Page 28**

CRM 2.0

BUSINESSES ARE LOOKING BEYOND OPERATIONAL CRM TO CUSTOMER ANALYTICS IN HOPES OF TURNING DATA INTO DECISIONS.

BY KYM GILHOOLY

WHEN TONY LoFRUMENTO joined Morgan Stanley in 2001, he was given a wide-ranging goal: to create a CRM and business intelligence (BI) infrastructure that would enable the financial services company to transition from a product-focused entity into a client-centric business. In developing a CRM strategy for Morgan Stanley, LoFrumento opted to put his resources into customer analytics — building a centralized data mart, developing predictive models for such areas as client profitability and performance measurement, and bringing in BI, analytics and Web-based reporting tools to analyze and disseminate information — rather than deploy an operational CRM platform.

"My theory was, 'Let's get our analytical house in order prior to venturing into an operational CRM platform,'" says LoFrumento, executive director of business intelligence and CRM for the New York-based company's Individual Investor Group, whose retail operations have more than 450 branches and some 3 million customers. "Operational CRM systems can be working perfectly, but if they don't have the business intelligence backing them up, you're building some pretty expensive Rolodexes," he says.

BENEFITS

Customer Analytics

- Sharpen focus on best customer leads
- Provide actionable information at point of customer contact.
- Increase potential for automated decision-making.

Morgan Stanley's decision spotlights an ongoing debate as organizations move to customer-centric technologies. With limited budgets, companies often have a choice to make. They can spend on operational CRM applications, which automate processes in sales forces, marketing departments and contact centers, and enable them to gather and share customer information. Or they can adopt a BI strategy toward CRM, putting analytics applications in place to leverage data sources they already have, and perhaps move to packaged operational applications later. Views vary, but many believe the real return on investment lies in leveraging both — particularly in large, business-to-consumer organizations.

Laura Preslan, an analyst at Boston-based AMR Research Inc., says most BI technologies being applied to CRM are analysis and reporting tools, which are typically used to review historical data and validate decisions. The future, she says, lies in leveraging predictive analytics, which model various business scenarios, and lay the groundwork for effective change. By coupling analysis and predictive capabilities with operational systems, companies can, for example, model customer behavior to develop targeted marketing, determine customer profitability to establish and deliver appropriate service levels, and tell customer-facing personnel what products or services to offer.

Morgan Stanley's TONY LoFRUMENTO focused on analytics instead of building an operational CRM system.

JENNIE ZEINER

Analytics may represent the next phase of CRM, but the companies that have invested significant resources in the operational phase aren't eager to spend more. "Customers really rebel when they've spent $5 million on an operational CRM package and now have to spend another $1 million on the analytics," says Steve Bonadio, an analyst at Stamford, Conn.-based Meta Group Inc.

One reason CRM systems fail to meet expectations is that businesses don't know how to measure their progress or further improve the new processes, says Bonadio. "That's where analytics comes into play. Operational and analytical CRM are highly complementary — you can't do one without the other," he says.

Much of the negative publicity about CRM comes from companies spending large amounts of money on collecting operational data that they haven't applied to decision-making, says Preslan. "The good news is that these companies now have the data, but it's a tough job getting the right tools and business processes in place to get it back out," she says. Difficulties include centralizing what may be a plethora of siloed databases, creating a single view of individual customers across multiple channels, and implementing a closed-loop, embedded analytics approach wherein operational systems feed analytics and the resulting changes have a positive impact on operations.

Refined Targets

Morgan Stanley has already seen benefits from creating predictive models for certain segments of its customer base, enabling the company to refine its marketing efforts. "Think about all that money you're saving not going after customers that the model says will have a very low response rate," says LoFrumento. "You can run a marketing campaign based on a predictive model on propensity to purchase, which is much different from how you ran it in the past when [campaigns] were likely based on basic audience selection." Morgan Stanley uses marketing automation and campaign management analytics applications from SAS Institute Inc. in Cary, N.C., and San Jose-based Business Objects SA OLAP and Web-based reporting tools, which allow it to package reports and distribute them throughout the organization.

Investment management company AGF Management Ltd., which is in the midst of a CRM deployment that involves both operational and analytical systems, likewise expects to see significant business improvements from predictive modeling. Toronto-based AGF's goal is to become a preferred supplier to its intermediary distribution force — the financial planners, stock brokers and insurance agents who sell AGF products to investors.

The company has already implemented PeopleSoft Inc.'s service module and is in the process of deploying its sales and marketing modules. For analytics, it will use the PeopleSoft's integrated analytics tool, as well as tools from Toronto-based Angoss Software Corp., a PeopleSoft partner.

"We just started working with PeopleSoft to create an enterprise-level system to support our overall CRM requirements. You have to build that operational capability and pipeline and begin that entire cultural change within the organization to prepare the way," says Stephen Elioff, vice president and CRM program director at AGF. "But we believe that analytics are going to drive the ROI for the project. Analytics are going to help us more effectively recognize behavioral purchase trends and put us in a position to more rapidly respond with the appropriate level of resources to the opportunities in front of us."

At Center Parcs Ltd., which operates vacation parks throughout Europe, deployment of predictive modeling tools from Netherlands-based DataDistilleries has brought quick improvement in direct marketing campaigns, says CIO Richard Verhoeff.

> **"OPERATIONAL CRM SYSTEMS CAN BE WORKING PERFECTLY, BUT IF THEY DON'T HAVE THE BUSINESS INTELLIGENCE BACKING THEM UP, YOU'RE BUILDING SOME PRETTY EXPENSIVE ROLODEXES.**
>
> **TONY LoFRUMENTO**, EXECUTIVE DIRECTOR OF BUSINESS INTELLIGENCE AND CRM, MORGAN STANLEY

Though they're not yet tightly coupled, the Windows NT-based modeling application and the company's operational campaign management system, from Suresnes, France-based AIMS-Software, share the same DB/2 database. Center Parcs also uses analytics tools from Chicago-based SPSS Inc., which acquired DataDistilleries last year.

"[DataDistilleries] really brings data mining into our production process," says Verhoeff. One immediate payback was the ability to develop promotions for two difficult-to-sell December holidays by allowing marketers to recognize a specific population that likes to travel during that time.

Setting the Stage

Achieving the ROI that executives anticipate from analytical CRM requires significant preparation, including centralizing data for analysis, creating a holistic view of each customer and linking systems to take advantage of findings.

Morgan Stanley has created a centralized data mart, which pulls data from all its mainframe-based data silos. It performs an extract, transform and load process monthly to extract data, and uses a sophisticated householding algorithm that groups all data by address to create an individual customer ID. "If you don't have accurate client profitability and lifetime-value calculation capability, how can you apply the appropriate level of service and offerings to each client? Most companies can't, and then their top clients are subsidizing the less profitable clients, which means they're more vulnerable to be cherry-picked by competitors," says LoFrumento.

Though systems integration is a priority in many analytical CRM projects, companies "shouldn't be as concerned about integrating systems through systems interfaces as about getting the data into the single data warehouse from which you're drawing to do your analysis," says AMR's Preslan. "That's a huge effort because that's basically an enterprisewide project. But without that you have each analytic application with its own little data mart and you end up getting 80 different reports each month."

Preslan says IT departments can start an analytics effort by interfacing certain data marts, but they'll still have to review the corporate data dictionary to determine differences in how each system defines various attributes, such as customer IDs, so it makes sense to move toward a centralized data architecture.

CRM GETS ANALYTICAL

The Vendor Landscape: A look at vendors' strategies and what customers are buying for CRM:
QuickLink 44659

Getting Information in the Right Hands: The key is to equip users at the point of contact with customers:
QuickLink 44660
www.computerworld.com

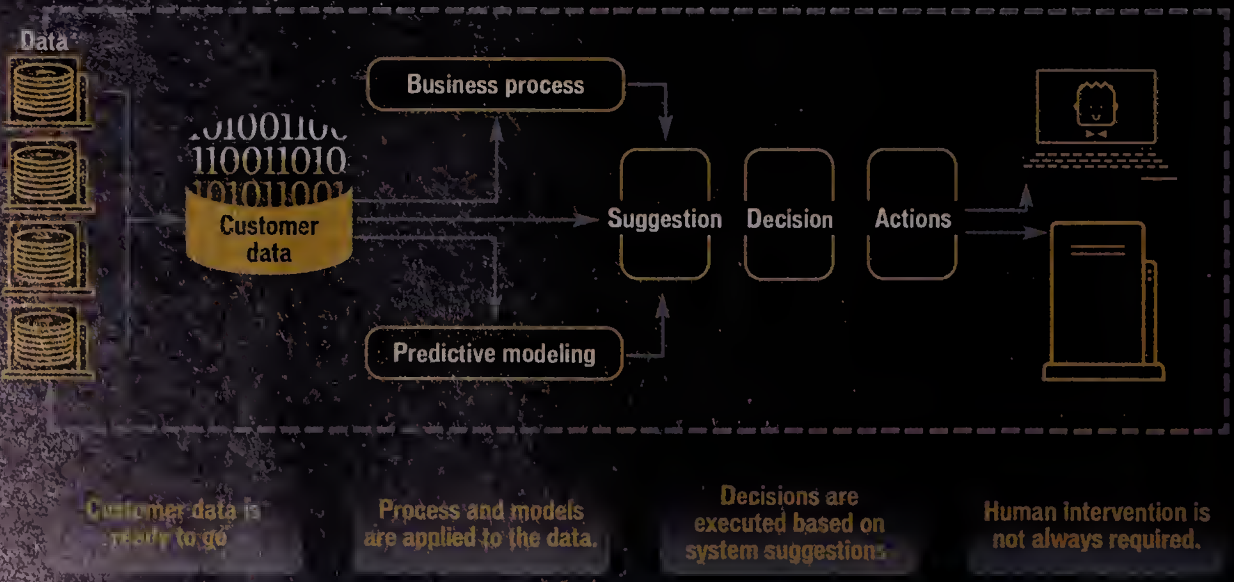
Eventually, says Meta's Bonadio, companies will benefit from advancing to a closed-loop architecture to exploit the benefits of both their analytical and operational platforms. This comes from a workflow architecture that incorporates event management principles to trigger appropriate actions. "After you've developed KPIs [key performance indicators] and you're able to set thresholds based on conditions or rules, they're able to trigger some action, generally in an operational system, that says something needs to be changed," says Bonadio. Also important is data delivery to personnel through various user interfaces, such as portals, where operational and analytical information can be displayed side by side and in context.

Morgan Stanley will deal with such issues when it implements an operational platform, which it eventually plans to do via a contact management system. "Give the pressure our industry was under the past few years, [operational] wasn't at the top of our agenda, but if this effort is going to hit on all cylinders, the operational side is needed," LoFrumento says. However, he adds, "if you're starting from scratch, do the analytical first, because there's immediate payback to all that knowledge and you're perfectly positioned when you do roll out operational. Furthermore, analytics is not as expensive, and there's immediate payback because it provides the information you really need to run the business." 44657

Gilhooly is a freelance writer in Falmouth, Maine. She can be reached at kymg@maine.rr.com.

INTEGRATING ANALYTICS INTO THE SYSTEM

Best practices for CRM analytics include aggregating customer data. From there, business-process rules and predictive modeling can be applied to the data. Decisions are based on suggestions from the system and lead to marketing campaigns, offers and inventory shifts.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Business process
Predictive modeling
Suggestion
Decision
Actions
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SOURCE: AMR RESEARCH INC., BOSTON, 2004

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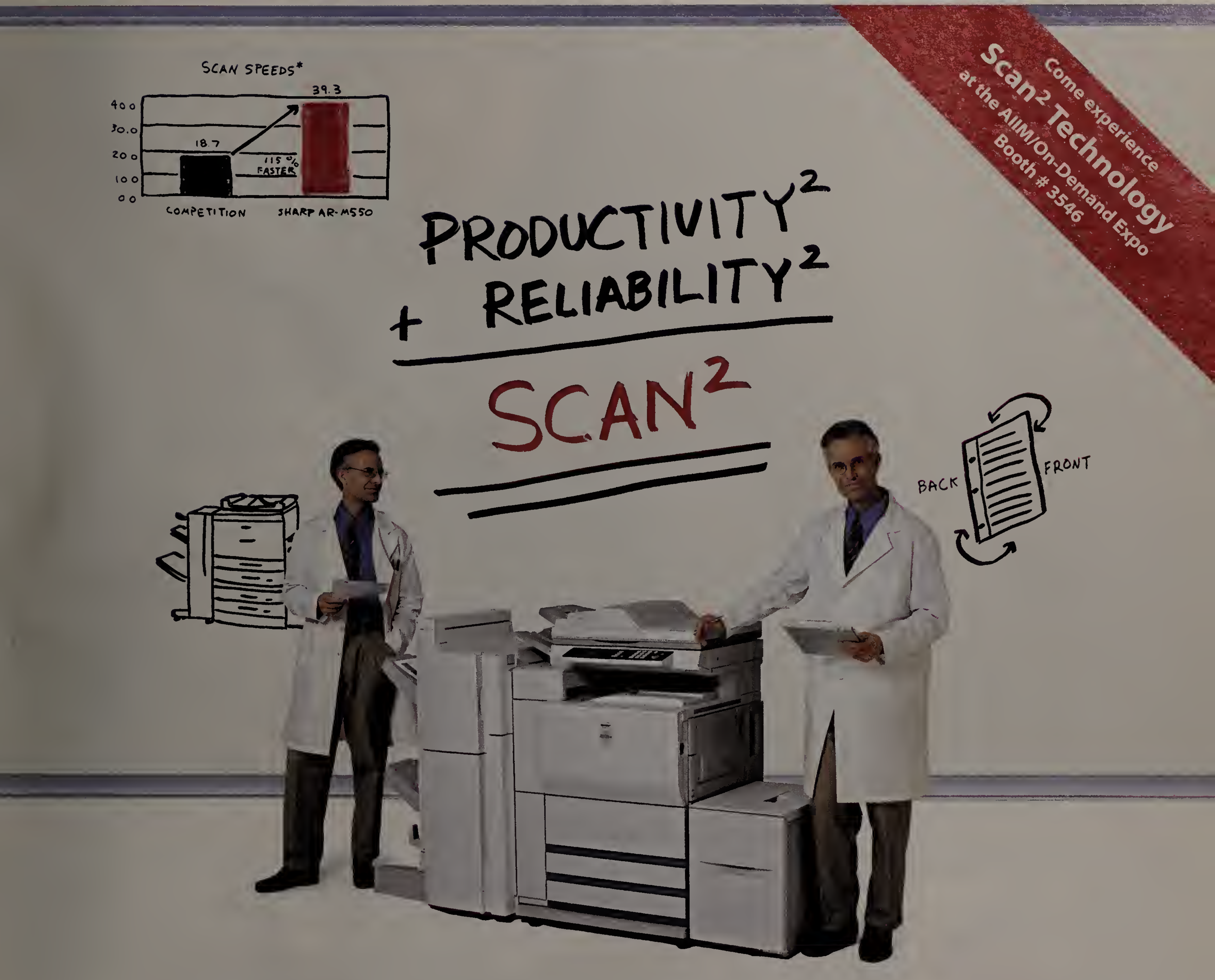

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COPPER TOPS 10 GIGABITS

GINA R BINKLEY

OUTLOOK: Products that support 10 Gigabit Ethernet over twisted-pair cabling are still more than a year away, but an interim standard that runs over twin-axial copper cabling should be available for data center applications this year.

By Matt Hamblen

WHEN THE FIRST 10 GIGABIT Ethernet standard was released nearly two years ago, sky-high prices of more than $50,000 per port kept many IT organizations on the sidelines. Though prices have dropped since then, the technology remains expensive, in part because it runs only on fiber-optic cabling.

Two emerging standards could change that. Each will bring 10 Gigabit Ethernet speeds to copper cabling, enabling a new generation of switches and networking equipment that promise a less expensive entry point for 10 Gigabit networking. The first products could appear later this year — but there is a catch.

EMERGING TECHNOLOGIES

The more evolved of the two standards, the 10GBase-CX4 specification, created by the Institute of Electrical and Electronics Engineers Inc.'s 802.3ak Task Force, enables Ethernet to run over CX4, or four twin-axial copper cable pairs. Although switch vendors say equipment supporting this scheme of 10 Gigabit Ethernet on copper will cost perhaps half that of a fiber infrastructure, the range is limited to 15 meters. Nonetheless, that's enough to connect switches or servers inside a data center — the standard's intended purpose.

The other proposed IEEE standard, called 10GBase-T, will enable 10 Gigabit Ethernet speeds on twisted-pair cabling over a range of up to 100 meters. But the specification is still in an IEEE study group and remains in the early stages of development. Vendors say it might take another two years to develop and ratify the final specification. And even when products appear, the standard may face an uncertain future. One reason: the worry that 10GBase-T will end up running only on Category 6e (Cat 6) twisted-pair cable, rather than the Category 5e (Cat 5) cabling that exists in many sites today.

Several networking vendors that plan to offer networking products this year that support CX4 claim that the technology represents significant cost savings for customers planning data center connections with fiber. Final IEEE ratification of the CX4 standard is expected this month. In contrast, 10GBase-T is unlikely to be ratified until 2006, according to Bradley Booth, chairman of the IEEE's 10GBase-T Study Group.

If the final twisted-pair standard does require Cat 6, Tim Link, CIO at Ohio State University–Newark Campus, will be ready. The school has already begun installing Cat 6 cable to run 10 Gigabit Ethernet within some building locations across its 300-acre campus. The current campus backbone uses the established 10 Gigabit Ethernet standard: It runs over single-mode fiber and uses six Extreme Networks Inc. Black Diamond 10 Gigabit Ethernet switches.

But the university has also installed Cat 6 cable in a new conference building and will add it to a planned student center and library with an eye toward supporting 10 Gigabit Ethernet over copper. The new cabling system, from CommScope Properties LLC in Hickory, N.C., will support 10 Gigabit Ethernet to the desktop as a means of future-proofing the school for high-bandwidth needs such as distance learning and desktop video applications.

A Twisted Plot For 10GBase-T

Richard Brand, director of advanced technology investment at Nortel Networks Ltd. and a member of the 10GBase-T Study Group, is certain that users will see an implementation of 10 Gigabit Ethernet over twisted-pair cabling within the next two years.

The question is, Which twisted-pair cabling types will the final 10GBase-T specification support? Some in the group hope the specification will eventually run over both Cat 6 and Cat 5 cable types. Support for the more common Cat 5 would enable many companies to use existing cabling rather than running new wiring.

"Some on the study group are inves-

Ethernet Evolutions: **AT A GLANCE**

	10Gbit Ethernet (802.11ae)	10GBase-CX4 (802.3ak)	10GBase-T
Date of ratification	2002 (products shipping now)	2004	2006
Cabling	Single-mode or multimode fiber	Four-pair twin-axial cabling	Star-wired Cat 6, Cat 7 or possibly Cat 5 twisted-pair cable
Range	300 meters (over multi-mode fiber), 40 km (over single-mode fiber)	15 meters	100 meters (Cat 7) or 55 meters (Cat 6)
Cost	About $4,000 to $8,000 per port	Predicted to cost half the price of comparable 802.11ae equipment	Expected to come in at one-half to one-third the cost of optical Ethernet
Best use	Network backbone interconnects	High-bandwidth inter-connects between switches and servers in data centers	Data center inter-connects, backbones and subnetworks that aggregate traffic

Link says he can "certainly see using copper in the backbone, because it is certainly cheaper." He notes that running fiber-optic cable costs twice as much as twisted-pair. But nobody is going to pull out fiber to put in copper, he adds, so it will be used only in new buildings or for expansions.

As for the 10GBase-CX4, the best fit may be for short distances between switches inside a data center, possibly within a single chassis or to another chassis nearby, vendors say. But Jay Adelson, chief technology officer at Equinix Inc. in Foster City, Calif., isn't sure that the standard will be all that useful even within the data center. He says the collocation facilities his company runs for hosting Web sites are so large that the 15-meter distance limitation won't be enough for many purposes. Like many organizations, Equinix is already using fiber for high-speed backbones — and fiber can support 10 Gigabit Ethernet over cabling runs of up to 300 meters.

"Our facilities are large, and it would be harder to do copper. I'm not a copper fan, because of the distance limits. Optical fiber is already easy to terminate," Adelson says.

Equinix uses San Jose-based Foundry Networks Inc.'s 10 Gigabit Ethernet switching gear. Adelson says he's sure Foundry will offer 10 Gigabit products that support the new copper standards, but given the extra cost, he wonders whether users will buy it.

Vendors Cautious

Some vendors are also unsure whether they will provide products supporting both copper standards, because they are uncertain how much interest customers will have. But Cisco Systems Inc. is already working with suppliers to get parts to support the CX4 standard. The cost for copper-switch modules should be half that of $4,000 fiber-optic modules used in Cisco's Catalyst 6500 series switches, says Bruce Tolley, senior manager for emerging technologies at Cisco.

Dan Dove, the chairman of the IEEE task force behind the 10GBase-CX4 twin-axial copper cable standard, says overall costs for copper in the data center should be 5% to 20% of the cost for fiber. He's hoping that CX4 can deliver 10 times the bandwidth of Gigabit Ethernet for two to three times the cost. "That was our guiding principle," Dove says.

As for the nascent twisted-pair standard, Tolley says Cisco will support it, but he adds that the company "can't do anything until people deliver the parts to us." He predicts that early installations of 10GBase-T will be expensive until volume sales bring down prices.

Tolley says that most installations of 10 Gigabit Ethernet have been at high-end data centers, service providers and universities, "where they have been quite comfortable with fiber." But, he adds, "there has been demand for a lower-cost solution."

Several other vendors, including Extreme, Foundry, Nortel Networks Ltd. and Enterasys Networks Inc., say they expect customers to begin to ask for copper connections, although none has made formal product announcements.

Mark Hurley, senior product manager at Enterasys in Andover, Mass., says his company expects to release a CX4 product sometime in the third quarter. "There's very high interest in copper," he says, agreeing with Cisco that connection modules for CX4 could sell for half that of fiber units.

But analysts aren't enthusiastic about either standard catching on. "The demand for either copper standard is relatively small," says Mark Fabbi, an analyst at Gartner Inc. in Stamford, Conn. **44456**

tigating Cat 5e for the specification," says Bradley Booth, the study group's chairman and an architect at Intel Corp. But Booth says that consideration isn't a major issue. "We've faced no major obstacles so far," he says.

Nonetheless, the study group is currently evaluating contradictory claims from Ethernet cabling and transmitter vendors as to whether Cat 5 can support 10 Gigabit Ethernet speeds and properly interoperate with other gear without causing interference. At this point in the process, Brand says, "the copper standard is 'witchplay,' actually."

"We're trying to determine who has the true story, so we're struggling in this committee," he says. And to complicate matters further, a new study group was formed in the midst of the 10GBase-T Study Group's January meeting to look at running 10 Gigabit Ethernet over the multimode fiber-optic cabling originally designed to support Fiber Distributed Data Interface networks. Such cabling was widely installed in the late 1990s. "We could have an FDDI standard in almost the same time frame as twisted-pair," Brand says.

When will that be? It is possible a twisted-pair standard will be finalized by mid-2005, with ratification sometime after that, Brand says. Booth sees a final standard by early 2006.

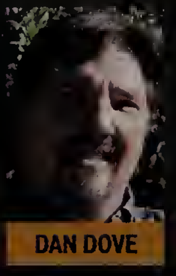
Brand acknowledges that his time frame is optimistic – a view shared by many vendors. And the FDDI effort only adds confusion for corporate network planners, who must decide whether to install new Cat 6 or fiber cabling or use existing FDDI fiber or Cat 5 cabling for high-bandwidth networking, Brand adds. "In my opinion, there are too many choices, and too many choices stops the market. It makes it easier for customers not to do anything."

– Matt Hamblen

CX4: Standard on The Fast Track

Although the 10GBase-T Study Group faces slow progress on a version of 10 Gigabit Ethernet over twisted-pair as vendors debate its suitability for use on Cat 5 cabling, Dan Dove, the chairman of the IEEE task force that developed the 10GBase-CX4 standard for twin-axial cable, says his study group's work went quickly. The process took about a year to complete, which is half the normal time, he says.

"It was a phenomenally smooth process, which was the most amazing experience I'd ever seen in 15 years of working with standards groups," says Dove, also the principal engineer for physical-layer technologies at Hewlett-Packard Co. Dove says the big difference this time was that people agreed that the standard needed to be done quickly and that delay would ruin it. "10 Gig optical did not launch the way people wanted it to, and the realization became clear that they needed to do something."


DAN DOVE

As for the twisted-pair standard, Dove says the task force considering it is "obviously not making rocket-launch progress, but their objective is a much more difficult electrical challenge." The chairman of the 10GBase-T Study Group, Bradley Booth, believes the standard will emerge in "early 2006." Members are still investigating the possibility of having the standard run on Cat 5 cabling, he says.

– Matt Hamblen

CABLE BY NUMBERS

Which cable types will best support 10Gbit Ethernet? Here's a look at the trade-offs:

QuickLink 44459
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Innovation Drives the Desktop

Q&A *Desktops and laptops are about to be transformed by an array of emerging technologies, according to Dell Inc. technology strategist* **Brian Zucker.** *In a conversation with* Computerworld*'s Robert L. Mitchell, Zucker tells how desktops and laptops are becoming — among other things — faster and smaller, and operating on wireless networks more frequently.*

What emerging technologies will roll out in Dell desktops and laptops in the next 12 months? The big thing this year is PCI Express, a serial interface similar to USB and 1394 that provides low pin count and higher performance. One port of PCI Express will yield 250MB/sec., which is twice what a PCI slot does today, and it takes up less than half the area.

The second half of this year is the launch of PCI Express products industrywide. The first thing you'll see is an addition or replacement of one PCI slot with a 1x PCI Express slot. That would be a great attachment point for Gigabit Ethernet or 1394b, which have traditionally saturated the PCI bus. The other thing you'll see is the replacement of the Accelerated Graphics Port socket with a 16x PCI Express socket ... to give you 4GB/sec. of bandwidth.

What impact will PCI Express have on your laptop designs? The PCMCIA card is being replaced by PCI Express card technology [called Newcard], and that's a smaller form factor, almost half the size of PCMCIA. It has a PCI Express or USB 2.0 interface. You can design systems that are smaller.

On the other side, you'll see a lot of focus on pushing the desktop into a smaller form factor.

What other technologies will we see from Dell? Wireless [LAN features] will become even more ubiquitous. Pretty much every notebook will end up having wireless integration. Ultrawideband technology is also very promising as a cable replacement, kind of like Bluetooth. You're talking 100Mbit/sec. at about 10 meters, and you can get higher rates, up to 480Mbit/sec. at 2 meters. It is a solution for audio and video. . . . The way UWB works is it extends across a large spectrum — 3 GHz up to 10 GHz — and spreads the signal across the spectrum with a very low power level. It won't cause a lot of interference but has a significant benefit of bandwidth.

Why will UWB succeed where Bluetooth hasn't? Bluetooth hasn't taken off because of cost. Things like keyboards and mice are so cheap that it's hard for people to stomach the cost of inserting wireless. Again, the cost will have to be worked out, but this opens up more functionality. I would say UWB is more of a 2005 play, but you'll hear about it a lot in 2004. I could see it being one of those technologies that might make headway in the consumer segment first.

What will we see in displays? More and more flat panels. Contrast ratios have gotten better so that flat panels are as good as CRTs. There will be a crossover point in the near term where flat panels pass CRTs. The only thing holding that up is the cost.

Organic light-emitting diodes are a very promising technology, but there are significant hurdles.

BRIAN ZUCKER

Title: Technology strategist

Company: Dell Inc.

Location: Round Rock, Texas

Accomplishments: A 14-year veteran at Dell, Zucker started in engineering, where he helped to create the Dimension line of desktop computers. He currently helps to define product direction and promote the adoption of emerging technologies for Dell's client products group.

What's in store for storage technologies? The other technology that goes hand in hand with PCI Express is Serial ATA. [It's] a new interface for storage . . . devices that now transfer data at higher speeds than the older ATA-100 parallel interface provides. That helps with reducing the cabling nightmares inside the box and enabling better airflow and better performance.

We've not yet begun to offer Serial ATA drives on notebooks. On the corporate side, we're still shipping IDE drives for the most part, but we'll continue to increase Serial ATA drives we ship in the corporate space over time.

In 2005, you'll see the Blu-ray optical disk formats. The transition to Serial ATA helped with performance in enabling that to move forward. HP and Dell have joined the Blu-ray Disc consortium. This is a great follow-on with what we've done with DVDs. You now have a medium that's capable of storing 20 to 25GB of data on a single layer.

As processing power increases, how is Dell dealing with thermal issues? Thermal challenges are big in both desktops and notebooks. People are demanding lower costs, so we've seen the adoption of desktop CPUs in notebooks, and the issue is cooling those. We're trying to target new designs that can cool 50% higher thermals. It's technology that's more of the same — traditional heat sinks with stacks.

In the future, things are going to be changing to where we're looking at refrigeration. Step 1 is we're at the limit of what we can do with forced air. Step 2 is liquid phase-change technology. Step 3, once you're talking about really high thermals several years from now, we'll start looking at refrigeration. . . . Active cooling solutions are under investigation at Dell and are being worked on in our labs.

What do you see coming in the areas of power management and battery technology? Suppliers are doing more and more work with active power management, including stuff in graphics chips where part of the chips shut down when not in use.

The battery engineers at Dell tell me there are technologies dealing with the organic materials in lithium ion that will allow us to yield about 30% to 40% power-density improvements. But beyond that, we're looking at fuel cells and wondering if that's something that can be manufactured and can be accepted.

GET THE DETAILS

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How far are we from integrating wireless LAN and WAN technologies on the client? The Holy Grail is to get to what we call smart radios, or software-based radios, where you have an integrated cellular and 802.11 solution inside the box, and it switches automatically. That's what we hope the industry drives to in the future. It's a ways out, but that's what we're trying to direct our resources to.

Do you support industry efforts to embed security features into system hardware? There is a Trusted Computing Group standard to have an identifier with the desktop so you can identify the PC or desktop. We've tended to go with identifying the individual, which we believe is more important, although both come into play in a total secured environment. Our first step was [offering a] smart card in our notebook line. Then you could look to extend that into a locked-down piece of hardware . . . but we prefer the route of identifying the user. **44380**

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E-mail Gateway Works Too Well

After blocking a flood of Mydoom e-mails, it spams users with alerts that create a general panic. By Vince Tuesday

SECURITY MANAGER'S JOURNAL

WHENEVER a new virus appears, I worry that it will be clever, elegant — and a headline on the nightly news. That combination means that everyone in management will want to know what's going on before we know ourselves. That happened before with SQL Slammer. But with the recent Mydoom virus outbreak, our own protective systems became the publicity machine that created a companywide panic.

You know a virus is fast-spreading when it goes by many names. Mydoom spread so quickly that the antivirus companies didn't have time to communicate with one another, so they all worked in parallel to analyze it and publish fixes. This virus was dubbed Mimail.R and Novarg before the Mydoom.A moniker finally stuck.

For the first few hours after the attack began, I remained blissfully unaware, as I slept while our team in the first time zone dealt with it. But I could tell something was up when I awoke and fired up my BlackBerry, which buzzed with e-mails and status updates.

The Mydoom virus isn't particularly clever; it spreads by sending executable files via an e-mail message that asks the recipient to run the code attachment. Once run, the virus copies itself to everyone on the user's e-mail address list. It also disables access to various Web sites you might use to clean up the infection and infects other files using the Kazaa file-sharing program.

But its only clever tactic is pretending to be a system-generated error message. Administrators can't block such messages as a group because the legitimate ones carry important information. Mydoom uses a normal .exe, .scr or .pif file to spread and is sometimes hidden within a .zip file. I'd expect this kind of file to be held by any company's e-mail gateway. It was by ours, and we expected this to be another storm we'd weather easily. Not so.

Friendly Fire

We're part of a wider group of financial services companies, and one of our sister companies suffered a major infection while I was sleeping. Due to the size of every user's e-mail message stores and the myriad places that an infected e-mail can hide, virus issues can keep flaring back up well after we think they're under control.

> **Those normally useful warning messages condemned us to providing long-winded explanations to all of our users.**

Someone in the other company apparently added a second e-mail route that delivered the virus to other internal users, bypassing the normal antivirus checks. Once these users opened their messages, the virus e-mailed users on their network — and ours. Then, of course, some recipients on the other company's network opened it, causing another cascade of infections.

Fortunately, we were saved by my predecessor's paranoia. He had arranged to route all e-mail — even from sister companies — through our antivirus gateways. The reports flooding in from the Internet showed this was the fastest-spreading e-mail infection ever, with over 1.2 million infected machines in the first 12 hours, yet we had dodged the bullet with zero infected machines on our network.

But we didn't come away entirely unscathed. As the gateways intercepted each infected e-mail, they issued warning messages and routed them to the intended recipients. We do this because some file or macro viruses infect legitimate files from a sender. We let the recipient know that we intercepted the message so they can alert the sender. Otherwise, the sender might keep repeating the same action.

With the millions of messages flying around the Internet, we had tens of thousands of infected e-mails coming into our network each day, and individual users were receiving hundreds of notifications.

It would be better to warn users of blocked messages only when the suspected virus is known to infect real files. Sadly, although viruses like Mydoom don't infect real user data, we can't turn off alerts for just one virus.

We pushed out a warning on our intranet saying that these messages could be ignored, but we still received a flood of calls. People all wanted to know the same thing: "This message you sent that says you stopped the virus, does that mean that you stopped the virus?" As soon as we answered one call, the phone would ring again.

Although our message was clear, users were worried because of all the negative publicity from our servers. As the day wore on, more and more people came into their offices across the world, saw the pile of warning messages from the e-mail antivirus gateway and immediately called us.

Soon, we couldn't cope with the volume of calls, and we didn't have an automated system to answer common queries. The calls kept coming. "But I don't know the person who sent me this," users said. "That's right, the e-mail source and destination are spoofed by the virus," we stated over and over.

In the end, we weren't doomed by the virus, and our protections saved us from the ravages of the infections. But those normally useful warning messages condemned us to providing long-winded explanations to all of our users. It was almost enough to make me miss the buzz of fighting a fast-moving infection.

At this point, we need to go back to the drawing board on how we generate alert e-mails. We don't want staff to miss vital alerts, but we don't have the resources or the patience to explain them to hundreds — or thousands — of users who call in. And our users don't want to be bothered by unnecessary, worrying e-mails. ◗

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Vince Tuesday," whose name and employer have been disguised for obvious reasons. Contact him at vince.tuesday@hushmail.com, or join the discussion in our forum: **QuickLink a1590**

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SECURITY LOG

Security Bookshelf

Security Warrior, by Cyrus Peikari and Anton Chuvakin; O'Reilly & Associates, 2004.

This oddly titled little book defies the normal approaches of the IT security genre. Instead, it tries to be an introduction for experts, a tourist guide for us locals who already know a thing or two about security. And it does a surprisingly good job. The authors cover many hot topics, such as software reverse-engineering and Bayesian analysis in intrusion-detection systems.

Very little time is spent on the basics. Rather you're thrown in at the deep end on each new topic. It's the perfect book to dip into while waiting for a phone conference to begin or listening to hold music. The bite-size chunks of information provide enough to get you interested in each topic and include many links on which to follow up. I love the factoids about things like the hacker root kit that includes e-mail support to users of this attack tool. This book will help if you want to know enough about IT security to claim to be a know-it-all.

– Vince Tuesday

MagniFire Updates Web Gateway

MagniFire WebSystems Inc. has released an updated version of its TrafficShield Web application gateway appliance that includes new security features and easier setup. Version 2.5 includes setup wizards and predefined security levels, according to the New York-based vendor. TrafficShield also supports filtering of credit card and Social Security numbers, offloading of SSL acceleration from a Web server onto external hardware and key management, and has added IP and port-address filtering and HTTP protocol validation functions.

BRIEFS

Software Guards Against ID Theft

WholeSecurity Inc. in Austin has introduced software designed to help companies protect their customers from identity theft. Confidence Online Portal Edition runs on unmanaged PCs that do business with e-commerce sites; it protects against threats such as eavesdropping and Trojan horses. Pricing starts at $5 per user.

IntelliJ 4.0 Debuts

JetBrains Inc. in Prague last week announced Version 4.0 of its IntelliJ IDEA Java integrated development environment. New features include a graphical user interface designer with runtime layout positioning and automated internal user interface code, integrated Concurrent Versions System source-code management, enhanced code editing, support for Java Generics and integration with BEA Systems Inc.'s WebLogic Server. Pricing starts at $499.

IBM Builds Europe's Fastest Computer

IBM said it has built Europe's most powerful supercomputer at Germany's Jülich Research Center. With 1,300 Power4+ processors, the system can run at 8.9 trillion floating-point operations per second (TFLOPS). The world's fastest supercomputer is at the Earth Simulator Center in Yokohama, Japan; it operates at more than 35 TFLOPS.

Network Director Offers Integration

Blue Titan Software Inc. has announced that its Network Director product, a runtime framework that provides policy-directed control for an enterprise service-oriented architecture, is being integrated with DataPower Technology Inc.'s XS40 XML-based security gateway. By year's end, the capabilities of both systems will be available in one device, said San Francisco-based Blue Titan.

TOMMY PETERSON

Intel Pushes Silicon Toward Light Speed

ONE RECENT EVENING, my husband skipped his usual inquiries about the mail and dinner and greeted me urgently with, "Did you hear the news from Intel this afternoon?"

After a fleeting moment of panic about the stock market, I learned that my usually laconic spouse was burbling enthusiastically about word from Intel that its labs had found a way to place silicon at the core of optical networks. "This is going to be really big," enthused the family software engineer, for whom hardware is hardly a passion. And he just might be right this time.

TOMMY PETERSON is *Computerworld*'s Technology editor. Contact her at tommy_peterson@computerworld.com.

Intel's scientists have created a silicon-based fiber-optic modulator that operates at a rate of 1 GHz, or 1 billion cycles per second. A modulator is a device that switches laser light on and off in optical (photonic) applications, much as transistors switch electricity to wires in electronic circuits. The 1-GHz mark is 50 times faster than anyone has achieved with a silicon modulator. That means the Intel chip can encode and transmit 50 times more data over a light beam than had been possible using standard silicon, which is plentiful and cheap.

To this point, fiber optics have relied on exotic and expensive materials like gallium arsenide and indium phosphide, and on hand-assembly processes. Because of prohibitive costs, optical devices have been limited to a few applications, even though they provide much higher bandwidth with less interference than copper circuits.

The announcement of the high-speed silicon modulator was made in the Feb. 12 issue of *Nature* and culminates several years of secret research in Intel's labs. The unobtrusive appearance of an article in the Letters section of the pre-eminent science journal hardly matches the potential significance of what the Intel researchers have achieved.

The ability to make a high-speed photonic modulator from common silicon opens the door to a world of low-cost, high-bandwidth connections from server to server, among PCs and eventually inside individual computers. Intel predicts that this breakthrough will eventually mean that the Internet will run faster — maybe hundreds or thousands of times faster, say industry experts.

High-performance computing could be revved up several levels, and bandwidth-chewing applications such as ultra-high-definition displays and vision-recognition systems may become viable. Some observers predict that moving photonics to silicon will mean a tenfold increase in bandwidth, but at the same cost as today's networks.

"We've shattered the 1-GHz barrier," says Mario Paniccia, director of photonic research at Intel. "We want to siliconize photonics, and this is the first step. We want to bring silicon economics to optical devices. This brings us within range of the average data center that moves data at about 4Gbit/sec. now."

Intel researchers are convinced that they can make modulators that work at 10 GHz, according to Paniccia.

"We really want to take optical where it could never go before," he says. And Intel is predicting that silicon photonics will be used in products by the end of the decade.

The technology will make its first inroads into the data center in high-performance computing and clustering applications, which need "extreme" bandwidth, according to Victor Krutul, senior manager of silicon photonics at Intel. Silicon photonics could make it possible to inexpensively replace the spaghetti of cables oozing from the backplanes of rack-mounted blade servers with a single, ultrathin fiber-optic cable, thereby both increasing bandwidth and cutting maintenance headaches and costs.

And that will be just the beginning, promises Paniccia. Because silicon is the standard medium for computing chips, the creation of silicon optical chips will accelerate the convergence of computation and communications.

"The other piece of this is intelligence," says Paniccia. "With silicon, we can surround the photonics with electronics. We can have transistors and photonics on the same chip."

It's been a while since there has been news of a breakthrough that truly has the potential to transform IT. Besides its inherent significance, the silicon modulator announcement beats the relentless drumbeat of news about uncertain markets, fluctuating quarterly earnings, phantasmagorical product road maps or Version 7 of some software suite by a long shot.

I relate my husband's reaction to the news not because I harbor a delusional notion that my domestic life is interesting, but to present a small bit of evidence that technology itself can still excite us. As we trudge through late-winter slush and hope that we're emerging from several years of economic chill, it's good to have the whiff of innovation in the air again. **44816**

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MANAGEMENT

02.23.04

Grooming Tomorrow's Leaders

FleetBoston, Southern California Edison and Wal-Mart have created IT management development programs to help prepare techies for supervisory roles. **Page 36**

Career Watch

This new, regular feature provides advice and data about the IT job market, such as how to get your foot in the door and how long hiring managers really spend scanning a résumé. **Page 38**

OPINION

Telling Right From Wrong

What do you do when a business manager asks you how to back-date a report? IT manager Brian D. Jaffe begins his new column on IT ethics and invites reader questions. **Page 40**

STEPHEN SHEFFIELD

CHAT GETS SERIOUS

Instant messaging gets down to work as a bona fide business tool. **BY JULIA KING**

TO HEAR INDUSTRY pundits tell it, this is the year that instant messaging will really take off in the corporate world. Now that Microsoft Corp., Yahoo Inc. and America Online Inc. all offer enterprise IM products with integrated security and archiving tools, IM is looking less Mickey Mouse and more like a serious business tool.

Moreover, enterprise IM systems are relatively inexpensive and uncomplicated to deploy to thousands of users, according to CIOs who have done so. Technical support is also pretty much of a no-brainer, and IM's primary business benefit of immediate access to experts and their knowledge is invaluable, especially in industries such as financial services and health care.

"It may be difficult to cost-justify in ROI terms, but it's really hard to ignore IM as a valid communication vehicle," says John Mercante, principal for technology operations at The Vanguard Group Inc., a $600 billion financial services company based in Valley Forge, Pa., that plans to roll out IM companywide after conducting pilot tests in the past year.

Indeed, Gartner Inc. estimates that by 2006, IM will be so ubiquitous that it will eclipse e-mail as workers' primary on-the-job communications tool — with or without the blessing of IT departments. Up until now, experts say, IT groups have largely been in denial about just how deeply unauthorized IM systems have permeated their companies and day-to-day business operations.

Here's a collection of tips and tactics from IT managers at three companies that are ahead of the curve in implementing IM as a serious business tool.

MERRILL LYNCH & CO.

NEW YORK

Twenty-four months ago, "we woke up and discovered we had a significant user base between AOL, MSN and Yahoo IM," says Chief Technology Officer Stephen Norman. "It wasn't exactly a surprise," he quickly adds. "What was much more of a surprise was just how critical IM was to certain pockets of the organization. People were using it to quickly throw details behind a conversation, to complete transactions."

Because IM played such a vital role in daily business, Merrill Lynch could neither prohibit its use nor force traders and other users to switch to a standard enterprise system that might be different from the ones used in their virtual trading communities. Instead, IT had to find ways to secure and archive messages sent and received via multiple Internet-based public IM services. One big driver was compliance with industry regulations, which require financial services firms to record and archive IM messages in the same way they do e-mail.

Because there's no single commercially available tool for managing multiple IM systems or even enabling interoperability between systems, Merrill Lynch developed its own.

"We developed an architecture under which every IM [regardless of which service is used] goes to a common store where we can archive," Norman says. "What we're trying to do is create a layer or front end which will adhere to Merrill Lynch's [security and archiving] guidelines while at the same time provide people with the opportunity to talk to whom they want to."

The company has also expanded IM's use to the IT support function, assigning each worker a designated IT help desk "buddy" who's available on a real-time basis via IM. "It's much quicker and much more interactive," Norman says.

"One of the things you're doing on the help desk is constantly handing a problem from one person to another," he says. "When you're using voice, you have to have a conversation each time. With IM, there's a text history to a conversation that's immediately apparent. There's also an immediacy and friendliness that's not there with e-mail, which are two of the characteristics that make it a good tool for help desks."

Merrill Lynch's advice to other companies deploying IM is to carefully consider its full range of uses as part of developing an overall corporate strategy for the technology. For example, will the IM product's chat function need to be integrated with a Web-based videoconferencing system? Will messaging functions in other applications need to be integrated with the IM system? "IM is extensive, and people need to look at all of its elements as part of their strategy," says Wilson D'Souza, vice president of collaboration and directory services.

INGERSOLL-RAND CO.

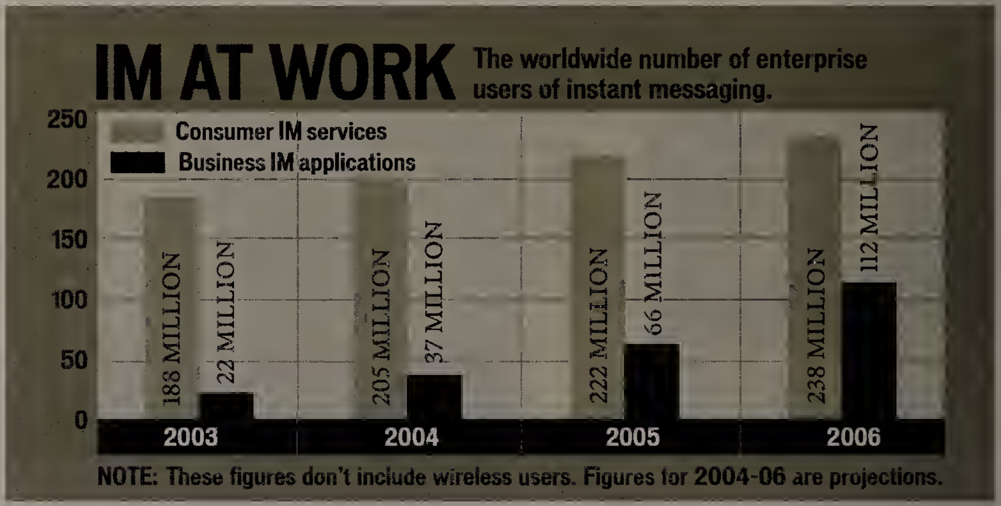
WOODCLIFF LAKES, N.J.

In 2000, CEO Herb Henkle issued a corporate mandate for disparate business units — which sell products ranging from Bobcat earth-moving machines to Thermo King refrigerated trucks and Kryptonite locks — to find synergies across their brands and sales strategies. He also wanted the business units to focus attention on global markets.

That's when enterprise IM took off at the $9 billion company, recalls Peter Thrall, IT project manager in Ingersoll-Rand's Huntersville, N.C.-based global business services group.

"We justified IM by stating it would allow us to increase communications with Asia, Europe and Latin America," Thrall says. The company also had the advantage of already having a single, standard Lotus Notes messaging infrastructure worldwide. For IM, it expanded that system to include Lotus' Sametime chat function.

Devising and putting in place an enterprisewide IM policy has been less straightforward, however. Sametime is the company's official IM tool, yet Ingersoll-Rand doesn't ban employees from using Internet-based IM services, such as AOL Instant Messenger, at least for now. Ingersoll-Rand also doesn't officially archive chat messages, although users can save chat messages as text files.


IM AT WORK The worldwide number of enterprise users of instant messaging.

NOTE: These figures don't include wireless users. Figures for 2004-06 are projections.

SOURCE: IDC, FRAMINGHAM, MASS., 2003

IM CHATTER

Nearly 80% of instant messaging in companies is done over public IM networks, such as AOL.
— THE RADICATI GROUP INC.

65% of the companies that plan to buy IM products in the next 12 months intend to deploy them to 100% of their employees.
— IDC

"About 10% of businesspeople with e-mail accounts now have IM, either illicitly or legally, and use it on an active basis. I wouldn't be surprised to see that number double in 2004."
— Matt Cain, analyst, META GROUP INC.

Inevitably though, this will change. The company is actively working on a new messaging policy that will likely require archiving and prohibit the use of public-domain IM tools within the next year, Thrall says.

In the meantime, the benefits that a standardized enterprise IM system offers — such as integration with a worldwide corporate e-mail directory — are making it a lot easier to find people spread across Ingersoll-Rand's eight business units and more than 100 manufacturing facilities.

Lotus' integrated "presence" capability also lets e-mail users know if a colleague is currently on the IM system. If a user is on the system, his name appears in green text in all e-mail from him, to him or about him. If he's on the system but not at his desk, his name appears in yellow text. Though its value is difficult to quantify in dollar terms, that feature is a very important piece of the system, says Thrall.

One way that Ingersoll-Rand has been able to quantify employees' acceptance of a standardized IM system is by its high usage.

"At first, we underestimated our infrastructure because we underestimated IM's growth. We thought we could run everything out of the U.S., so we only set up infrastructure here, but we've had to mimic that infrastructure in Europe and Asia," Thrall reports.

His advice to other IT managers: "Don't fight IM. Develop a strategy for implementation instead. If you don't, others will do it for you by bringing IM in under the radar."

ST. CROIX CASINOS AND HOTELS

TURTLE CREEK, WIS.

St. Croix Casinos and Hotels first officially tested enterprise IM last year to see if it could help reduce costly phone calls among three of its sites in northern Wisconsin. Calls among the facilities accounted for 60% of the company's total monthly long-distance charges.

Before that test, plenty of employees were using IM on company time. "The problem was that it wasn't business-related, and they weren't communicating with each other," says Allen Breeden, systems engineer.

St. Croix opted to standardize on enterprise IM software from Ipswitch Inc. in Lexington, Mass. The deployment started with the IT department and a select group of managers who used IM primarily to set up meetings and query colleagues for technical assistance. A year later, more than 200 users are up and running on the software, and long-distance telephone calls among St. Croix sites are down by 60%, Breeden says.

Overall, St. Croix considers the IM deployment a success. Still, Breeden cautions IT managers to consider and understand compatibility and integration issues before standardizing on any IM product and scheduling a rollout.

"Because it's a new product, we started out on Version 1.0," he explains. A month later, "we did our first upgrade, but the way we planned on rolling out the client updates didn't work so well," he says. Specifically, the casino's highly dispersed network couldn't accommodate the software's automatic client-update capabilities, so a work-around was needed. Lesson learned: "Make sure you're familiar with all aspects of the product, and test client updates and server updates before deploying beyond a small test environment," Breeden says. 44485

TRAVIS FOSTER

FIRING YOUR PROJECT SPONSOR

A dysfunctional executive sponsor can pull your project down. Here's how to cut him loose.

BY KATHLEEN MELYMUKA

THE $9 MILLION PROJECT was behind schedule because the executive sponsor was incompetent. “He was a very nice guy,” recalls the project manager, Virginia Robbins, who's now director of IT at a different company, Chela Financial Cos. in San Francisco. “But he got caught up in details.”

Robbins talked to the sponsor's boss about her problems with the sponsor's performance, but the boss asked her to continue muddling through. As weeks passed, she became increasingly worried. Finally, she asked the sponsor's boss to meet her for lunch and helped him understand that the sponsor's failure would soon be his failure. “I pulled out our plan, showed him our progress to date and explained why we would be six months late,” she recalls. Soon after, the sponsor was replaced.

The project sponsor is the executive or manager with the fiscal authority, political clout and personal commitment to see a project through [QuickLink 43738]. An effective executive sponsor can remove barriers and get key support for an IT project. But some sponsors — whether from flagging interest, overwork or unsuitability for the job — turn out to be so dysfunctional or underperforming that they drag the project down.

“We've seen sponsors ditching projects, or they do a slow withdrawal from the project,” says Gopal Kapur, president of the Center for Project Management in San Ramon, Calif. “They don't meet with the project managers or do what they need to do.”

But replacing an underperforming sponsor is a dangerous game. “It's politically touchy,” says Catherine Tomczyk, a project manager at First Data Corp. in Greenwood Village, Colo. “It's risky because if the sponsor is in a position to cause you pain, he might.”

Here are some strategies for getting a bad project sponsor out of your way:

Plan Ahead

Work upfront to be sure you get a great sponsor from the beginning, says Neil Love, author of *The Project Sponsor Guide* (Project Management Institute, 2000). “It's easier to influence the choice than to have to fix it later.”

Sign a Prenup

When the project charter is signed, meet privately with the sponsor and hammer out the procedure you will follow in case of inadequate performance, Kapur suggests. Follow it up in writing. Later, if things go wrong and you begin to talk to others about the sponsor's performance, “you're not going behind the sponsor's back,” he says. “You're just following the process agreed upon in first place.”

Give Him an Easy Out

State in the sponsorship agreement that if the sponsor can't fulfill his obligations, he will pass the role to a new sponsor, suggests Sue Young, CEO of ANDA Consulting in Williston, Vt. That gives him a graceful exit and the option to “fire the project” before you fire him.

ALTERNATIVELY

Look in the mirror. You may be part of the problem. Have you clarified the sponsor's role and worked to fit the project into the sponsor's schedule?

Hold his hand. A novice sponsor may need coaching until he gets the knack.

Enlist reinforcements. Find a shadow mentor to coach you under cover on how to do the sponsor's tasks yourself.

Suggest a co-sponsor. Offer to get help in areas where he doesn't have the time. Then gradually shift responsibility to the new sponsor.

Do a Reality Check

Be sure replacing the sponsor will solve the problem, says Love. “Maybe he's a Neanderthal, but you'd better be sure there's someone less Neanderthal in the company to replace him,” he says. “It could be a company-culture problem.”

Line Up a Replacement – Carefully

Identify a new sponsor candidate and get an informal, confidential agreement that he is willing and able to take on the project if asked. That way, if you're asked for a recommendation, you'll be ready. Ideally, get someone on the project steering committee who understands the problem and is already involved, Young says.

Arrange a Show-and-Tell

If possible, let the sponsor demonstrate his own incompetence. Robbins once had a sponsor who turned every meeting with business customers into a confrontation. The business owners got turned off and stopped attending meetings. “We lost all the dialogue and very quickly became very seriously behind schedule,” she recalls.

Robbins invited the sponsor's boss to sit in on a project meeting. “The sponsor went into one of his behaviors,” she says. “The big boss watched him interact, and that was all he needed.” He soon appointed a new sponsor.

Communicate

If you decide to take the problem to the sponsor's manager, key stakeholders or the CIO, state exactly what's wrong and document it in writing: meetings unattended, questions unanswered, issues unresolved.

“Talk about issues, not feelings,” says Kapur. “Don't say the sponsor lost interest; just document what has happened and say how that is impacting the project.”

Robbins recalls that when she went to her sponsor's boss, she said, “ ‘You've got a business to run, and I need a different skill set,’ not ‘This guy sucks and has to be off the project.’ ”

Frame the Future

In your critique, note when various portions of the project will have to be suspended because of the sponsor's performance: gateways that can't be passed, or scope, budget or schedule changes in limbo. “Give them a warning that this project may come to a halt,” Kapur says.

Leave It to the Boss

Don't ask to replace the sponsor, Young says. “Just lay out the problem, prove that you've done everything in your power to fix it and say, ‘What do you suggest?’ ” If you get a cryptic answer, don't worry about it. “It might be shorthand for ‘It will all be handled behind the scenes. Keep your mouth shut,’ ” she says.

If All Else Fails, Kill the Project

If no one will listen, it may be because no one really cares about the project. If that happens, try to generate interest, Robbins says. If you can't, try to have the project killed. Whatever you do, don't put up with an underperforming sponsor, she says. “If you have a bad sponsor, get a new one or get the hell off the project,” Robbins advises. “You're going to fail.” **44392**

Melymuka is a Computerworld *contributing writer. Contact her at kmelymuka@yahoo.com.*

GROOMING TOMORROW'S LEADERS

Companies are starting IT leadership development programs to help techies become managers.

BY THOMAS HOFFMAN

THE MOST common career path for technically savvy IT professionals is a step into management. The problem is that very few organizations offer management development programs that are specifically tailored to IT.

IT leadership programs "are pretty rare because leadership itself is hard to do," says John Parkinson, chief technologist for the Americas region at Cap Gemini Ernst & Young U.S. LLC.

"It's not like there are a lot of companies out there that offer IT Management 101," adds Robert Wischnowsky, chief technology officer at FleetBoston Financial Corp. But the Boston-based bank is doing something about that.

Following an employee survey in 2002, Wischnowsky and his lieutenants recognized the need to expand training and development opportunities for Fleet's frontline IT managers. The bank didn't want to send IT managers to a generic training program that might not address their specific needs. Instead, Fleet wanted to identify "unique gaps in frontline manager skill sets" and then fill those gaps, he says.

In early 2003, the bank selected a handful of well-performing IT supervisors to form a focus group to identify what makes great managers successful. The group identified 15 success factors and then narrowed that list down to the top five: coaching, communications, conflict resolution, job knowledge and knowledge of human resources policies.

Since mid-2003, new IT managers at Fleet have been required to take an intranet-based skills assessment exam and then work with their supervisors to close any performance gaps. For example, if the assessment reveals that a new manager has to improve coaching skills, the manager consults with his supervisor to determine the course of action over a three-month period. This can include Fleet classroom training, online coaching courses, recommended book reading or other third-party offerings.

After three months, the management focus group assembled by Wischnowsky meets with the manager's supervisor to assess his progress "and determine whether the success factors have been addressed," says Wischnowsky. In his organization, where 1,100 staffers manage and support Fleet's IT infrastructure and operations, 90 out of 168 frontline managers have received leadership development training. Wischnowsky says he plans to have the remainder of his frontline managers complete the program by the end of March.

Empowering Career Growth

Southern California Edison (SCE) in Rosemead, Calif., offers several career programs for high-performing IT workers. In addition to programs that provide mentoring, job rotation and up to $50,000 in tuition reimbursement for IT workers who want to pursue an MBA degree, the energy company offers a yearlong IT leadership development program for about 25 top performers at a time, says Mariette Keshishian, SCE's manager of training and communications.

Under the leadership program, launched in April 2002, promising IT employees are identified not only for potential in their areas of expertise (such as network management) but also for opportunities to move out of IT into other business units such as power generation, says Carl Langaigne, SCE's manager of IT HR.

The leadership development program includes a boot camp, where students take part in four half-day courses in areas such as IT leadership challenges and how to influence their direct reports — or supervisors. That's followed by classroom and computer-based training in subjects such as team-building, IT budgeting, and managing workers in compliance with employment laws and SCE policies.

CAREERS

Paul Caldarone, a 15-year SCE employee and an IT project manager, is planning to take part in the IT leadership boot camp next month. Caldarone hopes to learn how to become more customer-friendly. "In an IT organization, we tend to move through projects with a narrow technology vision and lose sight of the customer focus," he says.

Looking to the future, SCE is working with the Center for Information Technology Leadership in Wellesley, Mass., to develop a computer-based training module on change management.

The leadership training isn't just for new IT managers, Langaigne notes. "What we fight from time to time is people dealing with complacency," he says. "We're promoting a mind-set where you constantly have to train your people in best practices, constantly refresh, and it's a constant learning practice. Just because you've been in the business for *x* years doesn't mean that you don't need additional training. It's an ongoing self-improvement process." 44347

Wal-Mart Tries New Training Approaches

WHAT'S THE BIGGEST challenge facing the world's biggest retailer? It's being able to add enough managers to keep up with the company's phenomenal growth, says CIO Linda Dillman.

The IT organization at Wal-Mart Stores Inc. began to address this problem about 18 months ago with a three-pronged program. The first effort, launched last spring, is a leader-in-training program in which new managers are teamed with "strong" managers and shadow them for about six months, says Dillman.

Toward the end of the six-month engagement, the mentors give the newbie managers additional responsibilities.

The first session, with eight new managers, led to some interesting career transitions. Dillman points to a rookie manager who had been in application development throughout her Wal-Mart career but then, after the shadowing session, moved into network operations. A dozen rookie IT managers are signed up to begin the next session of the program next month.

Wal-Mart also created a series of management training courses in which senior IT and HR managers give presentations on topical subjects. Since the new year is just under way, the first courses presented will be on salary planning and budget management, says Dillman.

In the third effort, called Leader-to-Leader, Wal-Mart sets up a half-day off-site meeting in which senior IT managers share their on-the-job experiences and wisdom. Dillman presented the first tutorial on the differences between leadership and management. This month, Wal-Mart's vice president of network operations is presenting a tutorial on how to troubleshoot problems.

So far, the leadership programs are paying off, says Dillman. "In the last six months, whenever we've had an opening for a manager, someone stepped up and we found the right fit," she says. In the past, most of the IT management positions were created by employee transfers within the company, "and sometimes the person who filled the position wasn't quite ready," she adds.

– Thomas Hoffman

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Career Watch

Dave Bigelow

Age: 44

Title: Software developer

IT job history: Moved to IT from accounting 10 years ago. An experienced J2EE developer with specific skills in Java, Oracle and Red Hat Linux.

Employment status: Laid off on Dec. 2, 2003, from Mitsubishi Motor Sales of America Inc. in Cypress, Calif. Was hired as a contractor less than a month later by L.A. Care Health Plan, a nonprofit health maintenance organization based in Los Angeles.

Q&A

You landed a new IT job in less than 30 days. What was your job search strategy? I posted my résumé on Dice.com and three or four other online job boards, and I called people I worked with in the past – programmers, friends and vendors that might have jobs or have customers looking for people with my background. I got my present job through a recruiter who saw my résumé on Dice.com.

How many interviews did you have? I went on six or seven interviews. Some were on the telephone, and some were actual sit-downs. I was pretty surprised that I was even getting phone calls, because it was Christmastime and because of all I had been hearing in the past year about the down IT job market.

What ultimately landed you the job? I take a lot of classes, and I had that on my résumé. I'm someone who likes to play around with technologies and work with open-source. I think working with open-source is one of the ways I got into L.A. Care. I think it's really because I take extension classes – between 25 and 30 in the last seven or eight years. That shows I'm someone who keeps up with technology.

How is the pay? I took a pay cut. I was making $110,000 at Mitsubishi, so I was pretty high. It was over what the market was paying. Now I'm in the 90s, so that's nothing to complain about. This is also a contract-to-hire job. After three months, if they like me and I like them, I'll go full time. Half of the interviews I had were for contract-to-hire jobs. They want to kick the tires for three to six months.

Any other tips for IT job seekers? Recruiters ask about specific vendors' products and specific versions of software and whether you have experience with things like IBM's WebSphere or WebLogic's portal server. Three or four asked me to take a test beforehand.

Also, go to user meetings. Sometimes recruiters go there, and it's a good way of finding a job. **44654** – *Julia King*

Tall Tales

■ **Taller workers tend to earn more than their vertically challenged counterparts,** according to a study from the University of Florida. Analyzing data from four different studies, HR.com reports that University of Florida management professor Timothy Judge and study co-author Daniel Cable, a professor of business at the University of North Carolina, **found that each inch in height amounts to about $789 more per year in pay.** The researchers, whose work will appear this spring in the *Journal of Applied Psychology*, found that height was even more important than gender in determining income.

Numbers Crunch

30 sec.

The amount of time most hiring managers spend scanning a résumé

0.3%

Average percentage by which companies will increase IT staff in 2004

20,000

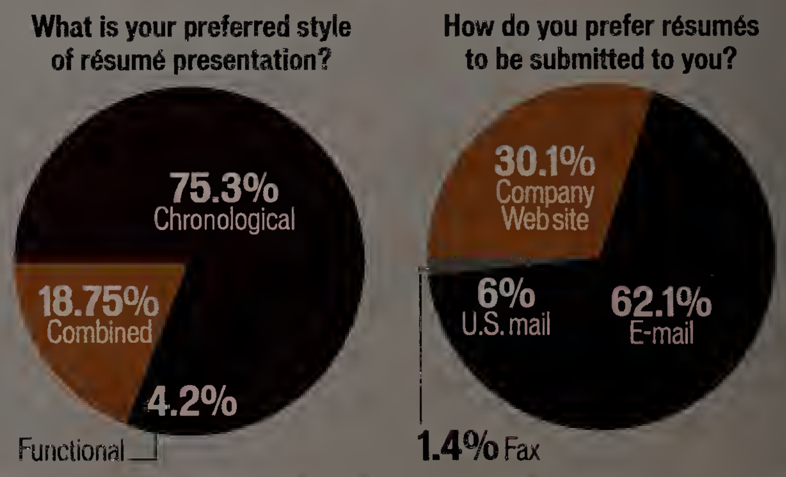
Total number of jobs cut by dot-com companies in 2001 and 2002

2,000

Total number of jobs created by dot-com companies in 2003

SOURCES: CAREER MANAGEMENT RESOURCES LLC, FORRESTER RESEARCH INC., BUREAU OF LABOR STATISTICS, DATAMDNITOR PLC

How to Get Your Foot in the Door



What is your preferred style of résumé presentation?

How do you prefer résumés to be submitted to you?

BASE: More than 100 recruiters, human resources personnel and hiring managers at U.S. companies. Note: Figures do not add up to 100% because of rounding.

SOURCE: CAREER RESOURCES MANAGEMENT LLC, PHILADELPHIA

It Pays to Be Your Authentic Self

■ **More than 21,000 U.S. employers** have sexual-orientation provisions in their nondiscrimination policies, and more than 4,400 offer domestic partner benefits, according to the latest Human Rights Campaign survey on gays and lesbians in the workplace. Companies located in cities and those in the IT industry are most likely to be supportive. Among them are Apple Computer Inc., Avaya Inc., Hewlett-Packard Co., IBM and Intel Corp.

"People involved in technology, particularly start-ups, tend to be folks with a higher level of education who have been exposed to all sorts of diverse people. The environment tends to be more creative and inclusive," says Kirk Snyder, assistant dean of student affairs at the University of Southern California in Los Angeles and author of *Lavender Road to Success: The Career Guide for the Gay Community* (Ten Speed Press, 2003).

Another key piece of information: Gay and lesbian workers do much better when they're out on the job. Snyder's survey of more than 300 gay, lesbian, bisexual and transgender employees shows that employees who are open about their sexual orientation earn as much as 50% more than closeted individuals with the same responsibilities. – *Julia King*

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BRIEFS

EDS Names CIO, Reporting to Feld

Electronic Data Systems Corp. recently named Keith Halbert vice president and CIO, reporting to Executive Vice President Charlie Feld. Halbert previously served as an executive at the Feld Group, where he was chief development officer and senior vice president of applications development for Feld clients First Data Resources and Delta Air Lines Inc. He was also responsible for developing and implementing the customer service application platform for Burlington Northern Santa Fe Corp. and developing a business transformation plan for Kemper Insurance Cos.

Ameritrade Puts CIO in CEO Office

Ameritrade Holding Corp. in Omaha recently announced the creation of the Office of the CEO, a three-person group that will advise CEO Joe Moglia on developing corporatewide initiatives. The office will include CIO Asiff Hirji, Chief Financial Officer Randy MacDonald and J. Peter Ricketts, who was appointed to the newly created position of chief operating officer. "As individuals who oversee the core functions of our company, they will provide me with insightful feedback and direction, offering consultation on [mergers and acquisitions], operational changes and other key corporate matters," Moglia said in a statement.

IT Vet Retires From Eastman Chemical

Eastman Chemical Co. recently announced that Roger K. Mowen Jr., senior vice president responsible for developing businesses, corporate strategy and information services, will retire May 31. CFO Richard Lorraine will assume responsibility for information services, and CIO Jerry Hale will report to him. Mowen, 58, joined Kingsport, Tenn.-based Eastman Chemical in 1971.

BRIAN D. JAFFE

Telling Right From Wrong

AS A RESULT OF A lot of people doing wrong — executives at Enron, Adelphia and Tyco, to name but a few — there are now a lot of people trying to make sure that everyone else is doing right (for example, auditors, regulators and those enforcing the Sarbanes-Oxley Act). And smack in the middle of it all is the IT department.

A few years ago, your company's lawyers may not have thought there was much to IT beyond the help desk. Now, as a result of lawsuits, indictments, arrests, convictions and accusations, corporate legal departments have become intimately familiar with how their companies' IT departments operate. The reason for this is that the information on servers and backup tapes amounts to a chronicle of the company's activities and those of its employees.

BRIAN O. JAFFE is an IT director in New York and co-author of the *IT Manager's Handbook: Getting Your New Job Done* (Morgan Kaufmann, 2000). Please send your ethical questions and quandaries to him at **brian@red55.com.**

At the same time that IT is trying to figure out how to restore data from many years ago ("Do we have a tape drive that can read this format tape? What software was it created with?"), we have to look forward by creating new records-retention policies and trying to make sure that we comply with the latest regulations. Many IT staffers must be thinking, "It's nice to be the center of attention for a while," and, "So this is what it's like when other departments know you exist."

But in all seriousness, these changes elevate IT's role in the organization and underline the need for IT professionals to act responsibly and ethically.

Of course, the discussion of ethics goes well beyond corporate fraud and creative accounting. There are plenty of situations that can present ethical challenges for IT professionals, including software license requirements, vendor selection and procurement procedures, administrative access to servers and tools that monitor user activity.

A lot of the time, it's easy to tell right from wrong (although apparently those guys on the front pages had some difficulty). But often it's not so black-and-white. Consider these scenarios: What do you do when a business manager asks you how to back-date a report or read an e-mail message without triggering the read receipt? Is it OK to duplicate a licensed CD that a user brings to you? When is it appropriate for a systems administrator to examine the contents of an employee's file or surreptitiously monitor an employee's Internet activities? What should you do if you know that your company's customer-privacy policy is out of step with its actual practice? If your documentation is out of date, what do you tell the auditors when they ask if you have systems documentation?

And then there are the issues you read about in the trade press. Should security flaws be made public before the vendor is able to release the patch? On which side of the right/wrong fence is the work of Jon Johansen, the Norwegian programmer credited with writing hacks for cracking the copy protection on DVDs and Apple's iTunes? Did VeriSign abuse its public trust when it turned on its Site Finder service? Does high-tech research firm Gartner Inc. have a conflict of interest by having Silver Lake Partners, a Silicon Valley venture capital firm, as one if its investors?

The goal of this monthly column will be to discuss matters related to the ethics of IT, and I can't imagine a better time than now to start it. I'll hold forth on these topics and discuss current events related to ethics, but I also want to have a more direct involvement with *Computerworld*'s readers.

So I'm inviting you to submit questions about ethical quandaries you're facing or have faced in your jobs. I'll use this space to report those questions (without identifying the sources, of course), discuss the issues surrounding them and identify possible courses of action. I won't pretend that the answers will be clear-cut, easy or convenient; in fact, it could be argued that ethics are most important when they're inconvenient. But open discussion is the first step toward finding the answers. Plus, it's always good to know that your colleagues are trying to navigate the same waters you are. **44482**

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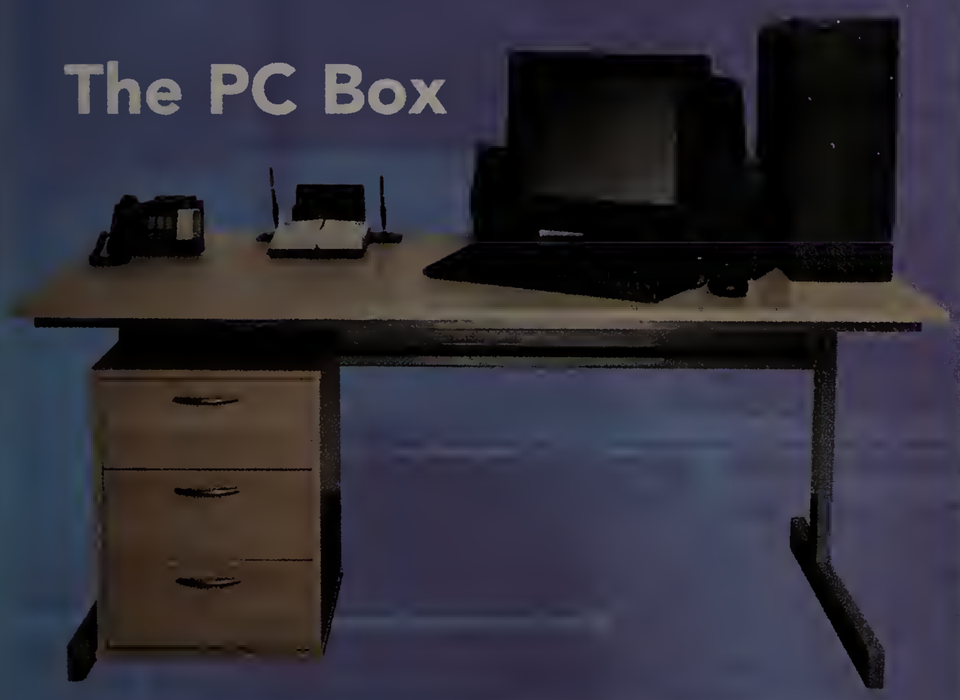

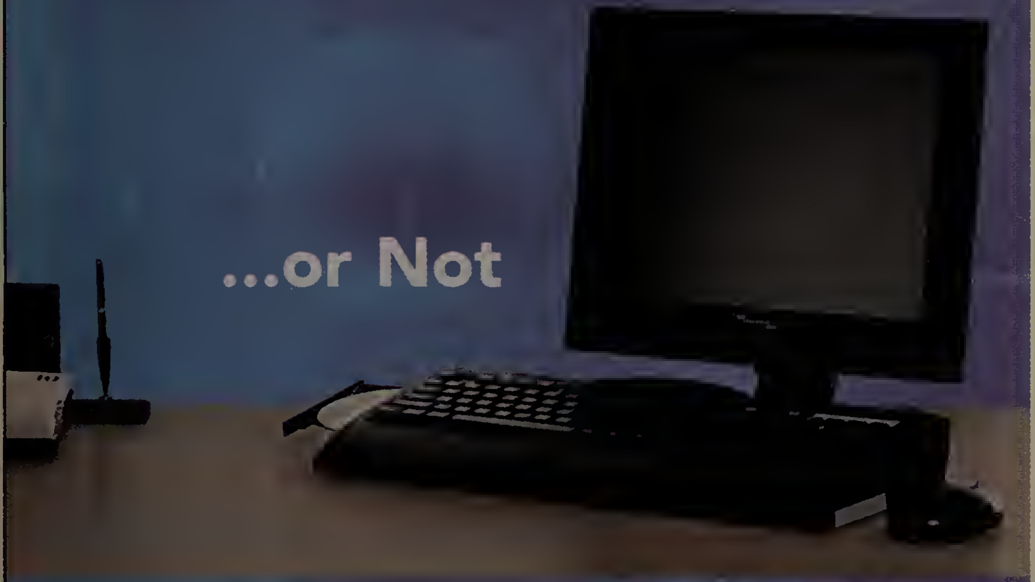

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Advertising Supplement

IT Careers in the Philadelphia Corridor

If business leaders in Pennsylvania have their way, the area will become a high tech hub of activity built on the backbone of higher education institutions such as Carnegie Mellon, University of Pennsylvania, Penn State, Drexel, Temple and Lehigh, allowing the state and region to forecast IT-related job growth at 12,500 positions per year. When paired with the state of Pennsylvania's Innovation Zone program designed to develop workforce and job opportunity, the equation is designed to bring in high-end IT jobs.

The demand is for a full range of skills related to application, software and network development, computing support, and data analysis and management. Innovation Philadelphia also predicts new IT jobs in bioinformatics.

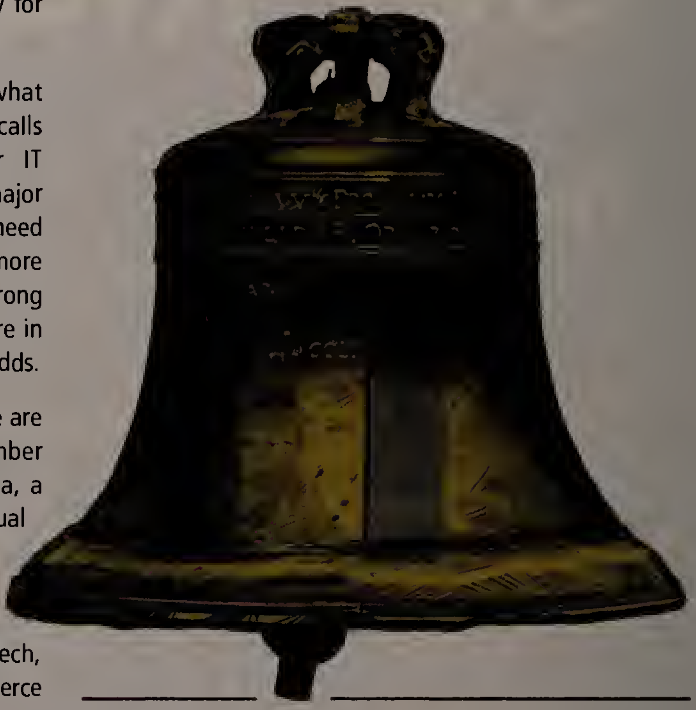
Richard Overmeyer, program manager for the Pennsylvania Department of Economic Development, says the Philadelphia area already hosts a number of companies in the high tech field "providing high tech professionals with a number of companies to choose from without relocating." Overmeyer says growth is forecast in a number of critical demand areas, including biotechnology, cyber security, homeland security and biotechnology.

Among the big companies are SAP, Unisys, Level3, Comcast, Immunicon, Lockheed Martin, and Cephalon Inc. Cephalon is adding 200,000 square feet of office space and is planning to build a new headquarters campus in southeastern Pennsylvania. Another biotech start-up, Protalex Inc., recently announced its move from Albuquerque and San Francisco to the area to be closer to the growing biotech community. IPR Intelligence is a start-up with 15 employees providing backup and recovery for IT systems.

IPR, Liquid Hub and Protalex are among what Innovation Pennsylvania president Richard Bendis calls "gazelles" – fast growth companies that offer IT professionals new opportunities. "We've had some major growth spurts recently," says Bendis, pointing to Lockheed Martin Management & Data Systems' addition of more than 3,000 jobs in the past two years. "Wages are strong and are in public and privately held companies that are in specialized or niche areas that add a high value," he adds.

Bendis says that the most recent study shows there are 442,000 high tech jobs in the state. "That number represents 7.2% of all the jobs found in Pennsylvania, a relatively high number," he says. With a 2.5% annual growth rate in high tech jobs, he expects the region to gain a significant share of start-up activity. Innovation Philadelphia data shows that venture capital investment for software and services, connectivity, biotech, healthcare software and information, and e-commerce totaled more than $251 million in 2002.

Overmeyer says that while Pennsylvania has more than 14,000 businesses with keen focus on information technology, the number and projections don't include early stage growth or the state angel fund program for startups. "We listen for the buzz and watch how many business plans are being shopped in a region and the number of deals in a given space, and our indicators point to a strong market for IT professionals in the Philadelphia area."



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SENIOR SOFTWARE ENGINEER to design, develop and integrate web based and Windows based systems software using Microsoft .Net platform, Sun Java, SQL Server, ActiveX, COM/DCOM+ components, HTML/DHTML and XML; integrate software for provisioning and diagnosis with DHCP servers, routers, network switches and CMTS systems of networks; perform system administration; design, develop, analyze, test and configure web servers using Microsoft DNA and .Net technologies; develop legacy systems on AS/400. Require: Bachelor (or equivalent) with major in Computer Science/Information Systems and five years experience in the job offered or any experience providing skills in the described duties. Competitive salary and benefits, 40-hours/week. Apply with resume to: Controller, ServiceCentral Technologies, Inc., 817 W. Peachtree Street, Suite 400, Atlanta, GA 30308.

Principal Engineer - Software

Design/develop info mgmt systems for use w/medical diagnostics devices. Utilize Object oriented design & programming, n-tier architectures, UML, MS Foundation, Visual C++, SQLK Server. Lead software architectural definition. Conduct proof of concepts. Define code dvlpmnt processes. Create user interface & detailed software component designs from functional requirements. Construct & unit test software components. Integrate components to build product. Must be willing to travel to project sites throughout the U.S. on short- or long-term assignments. Must have BS or foreign equivalent in Comp Sci, Computer or Electrical Eng + 4 yrs exp in job offered or software engr &/or programmer/analyst. 8am-5pm, M-F. Overtime as needed. $84,641/yr. Reply to Job Order #WEB 393222, Site Manager, Beaver County CareerLink, 2103 Ninth Ave, Beaver Falls, PA 15010-3957.

Senior Software Engineer

Design new info mgmt products to manage device data & clinical results from diagnostic analyzers. Use MS technologies, SQL Server, .NET framework & Rational Technologies: UML, XDE, Requisite Pro, Crystal Reports. Develop detailed software designs from architectural documentation. Implement software designs in code. Develop multilanguage software. Create user interface software designs from Use Cases. Must be willing to travel to project sites throughout US on short- or long-term assignments. Must have BS or foreign equivalent in Comp Sci, Mechanical or Electrical Eng + 4 yrs exp in job offered or software engr &/or software developer. 8am-5pm, M-F. Overtime as needed. $80,000/yr. Reply to Job Order #WEB 393799, Fayette County CareerLink, Attn: CareerLink Program Supervisor, 135 Waylan Smith Dr, Uniontown, PA 15401.

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SYSTEMS SOFTWARE ENGINEER to provide on-site consultancy to analyze, design, develop, implement and modify systems software in client/server and web architecture using JSP, Servlets, RDBMS, Oracle, WebSphere, AIX UNIX, QMS, Visual Fox Pro, Java, HTML, VSAM, CICS, VC++, C++, VBScript, XML, HTTP, WebMethods and SQL Server in Unix and Windows environment. Require: Bachelor's in Electronics Engineering/Computer Science/Engineering and four years experience in the job offered or any experience providing skills in the described job duties. 40% travel to client sites within the United States required. Salary: $68,000 per year, 40-hours/week, 8:30 am to 5:30 pm. Apply with resume to: Human Resource Manager, 4C Solutions, Inc., 1201 7th Street, East Moline, IL 61244.

Database Administrator. Sought by Englewood Colorado consulting company to work in various unanticipated locations throughout the U.S. Duties: Coordinate changes to computer databases, test and implement the database applying knowledge of database management systems. Plan, coordinate and implement security measures to safeguard computer databases. Use of Java, Netscape, HTML, Oracle, iPlanet Server, Visual Cafe and Rational Rose. Reqs. Master or equivalent in Computer Science, Computer Engineering, Software Engineering, Engineering (any field). $65,000/year, 40/hrs/wk, 8AM-5PM. Respond by resume to WORKFORCE DEVELOPMENT PROGRAMS, PO Box 46547, Denver, CO 80202, and refer to Job Order No. CO5067253.

Programmers, Software Engineers & DBAs: (a) Design, develop, upgrade & maintain complex database in Sybase, SQL Server, Oracle, Sybase Rep Server, SQL Server 2000, Oracle 9i, Oracle & SQL Server Enterprise Manager, ErWin, ANSI SQL, TSQL & other rel. tech.; (b) Analyze, design, develop & maintain specialized software apps. in Oracle Financial Services Applications Suite including Oracle Discoverer, Financial Analyzer, Sales Analyzer, Express Server (OLAP) & Warehouse Builder, AIM, Cobol, Dbase, FoxBase & other rel. tech. Prevailing wage/benefits. Send resume to Attn: HR, 3651 Peachtree Pkwy., Suite E370, Suwanee, GA 30024. EOE.

PROGRAMMER/ANALYST - Nashua, NH. Analyze, design, program, implement & support advanced computer applications utilizing C#, Visual Basic, VB Script, ASP, SOL Server, Oracle, Java, Java Script, MAGIC (7.0 and above) under UNIX &/or Windows operating environment for client/server &/or internet-related applications. Analyze & synthesize business req. reviewing client's existing systems. Define system req. & interfaces, test systems for compliance. Responsible for system installation & integration of middleware COM + components w/web application running under IIS. Req. Bachelors in Comp. Sci., MIS, or Comp. Engineering plus 1 yr exp. Contact: International Systems Technologies, Inc., 1812 Front Street, Scotch Plains, NJ 07076.

PROGRAMMER/ANALYST - Nashua, NH. Analyze, design, program, implement & support advanced comp. applications utilizing Java-based CORBA, Swing, Java, Java Script, XML, HTML, Weblogic application server under UNIX &/or Windows operating environment for client/server &/or internet-related applications. Responsible for migration issues such as conversions fr. BOA-based CORBA to POA-based CORBA & integration of enterprise systems & legacy systems. Analyze & synthesize business req. reviewing client's existing systems. Define system req. & interfaces, test systems for compliance. Req. Bachelors in Comp. Sci., MIS, or Engineering (any field) plus 1 yr exp. Contact: International Systems Technologies, Inc., 1812 Front Street, Scotch Plains, NJ 07076.

Programmer Analyst, multiple positions, to program, analyze, test, troubleshoot and develop real time web-based financial business system application software installed in a distributed client server environment including MS SQL Server 2000 and MS IIS 5.0 and insures implementation in an intra/internet environment. May use tools and technologies such as VB.NET, ADO.NET, XML WEB SERVICES, ASP, T-SQL, VB Script, HTML, MTS, or Erwin as dictated by particular project assignments. Requires Bachelor's Degree in Computer Science, Computer Engineering, or Computer Science and Engineering and one year direct experience. Work location: Various unanticipated client sites. Send resumes only, no calls, to: Genome International Corporation, 583 D'Onofrio Drive, Madison, WI 53719.

Programmer Analyst. Sought by Englewood Colorado consulting company to work in various unanticipated locations throughout the U.S. Duties: Under direct supervision, convert project specifications and statements of problems and procedures into detailed logical flow charts for coding into computer language. Develop and write computer programs to store, locate and retrieve specific documents, data, and information. Program web sites. Use of HTML, Java, SAP, Windows NT, SQL Server and DB2. Reqs. Bachelor or equivalent in Computer Science, Computer Engineering or related field of study. $44,678/year, 40/hrs/wk, 8AM-5PM. Respond by resume to EMPLOYMENT PROGRAMS, PO Box 46547, Denver, CO 80202, and refer to Job Order No. CO5067250.

Director to learn client's tech. reqs., develop custom solutions, proposals, presentations, price negotiations, PM, QA/QC; strike partnerships with clients for software development and consulting outsourcing; build sales team for targeting industry verticals; evaluate offshore development model; responsible for all sales efforts including marketing, sales, and contracts; supervise sales staff; operate BPO Global Sales Unit. BS in Science or equivalent + 5 yrs. of exp. in Marketing/BD/Sales + 1 yr. of work exp. w/ Ebix ASP & eGlobal. In lieu of BS, 6 yrs. of IT exp. in Marketing/BD/Sales. Comp. salary at prev. wages. Apply: HR, EBIX, 5 Concourse Parkway, # 3200, Atlanta, GA 30328 with proof of permanent work authorization.

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Solution Architect wanted for computer s/w and related prof. services co. Requires M.S. in C.S., E.E. or related engg. or tech. field plus 3 yrs. exp. with Jyacc Jam/Prolifics, Scribe SQR, Oracle PL/SQL, IBM Web Development Tools, multiplatform Windows/Unix env. Send resume to H.R. Dept., ViryaNet, Inc., 2 Willow Street, Southborough, MA 01745.

Wide Area Network Administrator. Min. Bachelor's Degree in IT/Engineering/related field, and 2 yrs exp. in IT position. Design, maintain, and troubleshoot networks b/w central and remote satellite centers, incl. high-speed voice, video, voice and data networks specific for TeleMedicine purposes, and Medical Digital imaging transmission systems. Must have familiarity with international business procedures. 40 hrs/wk, 9AM-6PM. Competitive salary. Send resume to: Grove Dental Clinic, ATTN: HR, 3400 Payne St., Ste. 101, Falls Church, VA 22041.

Systems Analysts: Design/develop accntng./financial apps. conforming with FASB in Oracle Financials Suite, Oracle RDBMS & related tools, Forms, Reports, MS SQL, Developer/Discoverer, Lotus Notes in various OS. Travel to client sites. Send Resume to 3100 Breckinridge Blvd., Suite 100, Duluth, GA 30096. EOE.

Software Engineers for Naperville, IL office. Develop Software applications using ASP, XML, UML, Coolgen, Interwoven, DB2, JCL, Rational/Mercury testing tools, Clear Case, Oracle, AOL, Developer 2000, Designer 2000. Bachelors or Equivalent req'd in Computers, Math, Engineering or related field of study + 1 yr of related exp. 40 hrs/wk. Must have legal authority to work permanently in the US. Send resume to HR Manager, TDK Solutions, LLC, 48383 Fremont Blvd, Ste 118, Fremont, CA 94538.

Programmer Analyst needed with the following technical skills: VB.NET, Visual Basic, ADO.NET, Web Services, SOAP, ASP (VB Script, JAVA Script), Visual InterDev, HTML, DHTML, SOL Server, Crystal Reports, Windows NT, Windows 2000, Data Modeling, Erwin Reqmts: w/2 yrs. exp. Mail resume to: Kaltech International Corporation, 3965 Stone Village Court, Duluth, GA 30097, EOE.

IT Professionals needed. Bristol, PA company is seeking qualified candidates for several senior and mid-level positions including: Software Engineers, Programmer Analysts. Requires MS/BS or equivalent and/or rel. work exp. Email res., ref. & sal. req. to: hrd@systemspeople.com.

Sr. Project Mgr sought by Engg servs consulting. Resp: project mgmt Telecom, IT & Security; planning & acct dvlpmt, project team, directing tech/support personnel; prop. creation & delivery, coord'n pre-post-sales & operation. Req; Bach comp sci, MIS, Engg (Systems, Ind or rel field). Exp. Eng/Port/Span. Comp. Sal. Techno-Management, Inc., 4108 Laguna St, Coral Gables, FL 33146. Fax: (305)444-2008.

Software Engineer (St. Louis, MO): Develop large-scale web appls.w/ OO tech. using C/C++, J2EE JSP, Servlets, EJB, & UML in a n-tier client/server on W2K / NT / Unix; design enterprise appls. w/ J2EE & Struts framework; formulate tech. specs appls.in Websphere/Weblogic Server using XML, SQL, Oracle & Clearquest, and interface Oracle to Java appls. thru JDBC; develop use cases and client side GUI screen w/ JBuilder & Java Script, troubleshoot, tune and debug. Require BS in Comp. Sc./Comp.Engr. w/ min. 3 yrs. exp. Full-time. Resume to: HR, TechnoSmarts, Inc. 444 Chesterfield Cte., Ste.210, St. Louis, MO 63017. NO CALL/EOE

PROGRAMMER ANALYSTS for Chicago, IL office. Design & Develop software applications using Oracle, C++, Sybase, XML, UML, Interwoven, Coolgen, ClearCase, ClearQuest, Plumtree, PVCS, UNIX. Bachelors or Equivalent req'd in Computers, Math, Engineering or related field of study +1 yrs of related exp. 40 hrs/wk. Must have legal authority to work permanently in the U.S. Contact HR Manager, Infobahn Softworld,Inc. 3140 De La Cruz Boulevard, #108, Santaclara, CA 95054.

Programmers & Software Engineers: Analyze, design, develop, test & implement specialized apps. in (a) Business Objects & rel. product suite, Web Intelligence, Imformatica, PowerMart, ASP, VB, Crystal Reports, Oracle 8i & rel. tools; (b) PeopleSoft Supply Chain Mgmt., Financial & HRMS, Oracle & rel. tech.; (c) SAS Suite, Teradata, Sybase, Informix, Oracle 9i & rel. tech.; (d) WebSphere, Peoplesoft HRMS, Oracle & rel. tools, Java & rel. tech.; (e) MO series, WebSphere, XML, DB2, Apache Server, Clearcase, Java & rel. tech.; (f) Vitria Businessware, VisualCafé, Weblogic, C++, Sybase, Java & rel. tech.; (g) Oracle, ADSM, SOL, AbInitio, Sybase, Informix, Rational Clearcase and rel. tools; (h) PeriphonicsProducer & other Periphonics products for interactive voice response systems, SCCS, C/C++, Oracle 8i & Genesys product suite; (i) SAP-SEM, SAP R/3, SAP BW, ABAP/4, SAP (SD, MM, PP) & rel. tech; (j) Oracle, SOL Server, Cobol, CICS, DB2, IMSDB/DC, TSL & rel. tech. Send resume to Software Technical Services, Inc., HR, 2021 Fox Valley Drive SW, Rochester, MN 55902, identifying interested position(s). EOE

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Software Engineers, Programmer Analyst, Systems Analyst, need for NH based IT firm. Will need Bach +1 yr exp for Jr. Level positions and Masters +2 yrs or Bach + 5 yrs of exp for Sr. Level position. Various skills req: Oracle, DB2, Sybase, MS SOL Server, IIS, Informix, C, C++, VC++, C#, ASP.NET, VB.NET, ADO.NET, .NET Framework, DHTML, MFC, MTS, ATL, COM, COM+, ASP, VB, J2EE, Swing, JavaScript, XML, J Beans, Applets, RMI, Corba, Win 98/2000/NT, UNIX, Datawarehouse, Business Intelligence, Microstrategy, Informatica, PL/SOL, ETL, Erwin, Business Objects, Cognos, SAS, ERP, i2 Supply Chain software, i2 Demand Mgmt software, CRM (Siebel, Peoplesoft, Microsoft), Pro*C, Perl, OLAP, UtranFilter, CASN, ASN2C, OOAD, ASN2PER, MKPERFIL, GSM, LCS, WCDMA, OSE, TCP/IP, UDP/IP, SS7, 3GPP, SCM, Clearcase, Rational Tools, Autaomation Testing tools. Apply with 2 copies of resume to H.R. Dept, Venteq, Inc., 15 Constitution Dr., Suite 144, Bedford, NH 03110

Retail store chain is looking for two Technical Analyst III (Programmer Analysts) w/job duties that include: Primary responsibility for analysis & design of company's core retail applications while providing leadership to lower level positions. Responsible for technical design & deployment of complex retail systems. Assist in all phases of system implementation including design, development, testing & support. Work effectively w/customers to learn specific design req. & perform analysis & design of retail applications. Analyze problems & prepare functional workflow diagrams as well as detailed reqs. of program specs. Successfully dev. & execute test plans that thoroughly test applications & allow for quality implementations of new or modified applications & review results. Work w/mgmt to plan & justify system enhancements. Demonstrate continuous effort to improve operations, decrease turnaround times, streamline work processes & work cooperatively & jointly to provide seamless customer service. Experience/Education: Bachelor's degree (or equivalent based on combination of education and/or work experience) in computer science, plus two yrs of experience in job offered OR two yrs of experience as programmer analyst and/or systems analyst. Experience should include the following programming languages & operating systems: Oracle, SQL, PL/SOL, Unix, & Retek. Job Location: Matthews, N.C. Work Schedule: 40 hrs per wk/8:00 am to 5:00 pm/M-F. Salary range: $70,000 to $90,000 per year. Send resume to: Employment Security Commission; 500 W. Trade Street; Charlotte, NC 28202. Resumes MUST include the applicant's Social Security Number, DOT Code 030.162-014; and Job Order No. NC2648417.

Programmers, Software Engineers & Network/System Administrators: Analyze, design, develop & test apps. in (1) MS tech. including ASP.NET, VB.NET, C# & related .NET tech., XML, HTML, ASP, VB/Java Script, COM/DCOM, SQL Server, Crystal Reports, Visual ActiveX, BizTalk & rel. tools; (2) SAP r/3, ABAP/ 4 programming in SAP (BW, SD, MM, PP & FI/CO) modules, SAP Scripts, EDI, Mercator, WebSphere, DB2, Java & rel. tech.; (3) EDI, HIPAA, Cobol, Clarify, SOL Server, Sybase, VB, DB2, Oracle, Java, VB & rel. tech.; (4) AB-Initio, Teradata, Clarify, Oracle, Toad, Unix Shell/Perl Scripts & rel. tech.; (5) System design, install, network & administer AIX, Solaris & NT based servers: (a) Apache Web, Websphere App., Veritas NetBackup, Oracle, MQSeries, iPlanet, Boume, Kom, TCP/IP, DB2, Java, C, C++, BigBrother, HumminBird, Netview and related tech.; (b) TCP/IP, SNMP & other network protocols, DHCP, DNS, VPN, Exchange, SMS, Microsoft Windows/Sun/Linux OS Versions, Compaq, Dell, IBM Enterprise/Proxy Terminal Servers - [CCNP & MCSE required]; Send resume to HR, 1278 Killian Knoll Circle, Lilburn, GA 30047, identifying interested position(s). EOE

Software Developer

Design, develop and implement customized software solutions based on a client's need and business environment. Must have Bachelors Degree in Computer Science or in a related field & 2 yrs. exp. or 2yrs. exp. in a related position w/ability to use: Oracle, Oracle Discoverer, Developer 2000, Oracle Financial Analyzer, Oracle Sales Analyzer and Oracle Applications 11i (Techno Functional), Workflow, Ingres and COBOL. 40.0 hrs./wk 8:00 AM - 6:00 PM. **Applicants send cover letter and resume to:** Cyber Korp, Inc.,400 West Lake Street, Suite 216, Roselle IL 60172-3572, **Attn: HR MGR.**

NETWORK ANALYST Monitor and measure the data network performance and assets on all maintenance issues. Responssible for overall frame relay network performance and maintenance. Monitor and administer the LAN/WAN performance reporting tools. Provide recommendations on system upgrades based on performance standards. Utilize the Project Methodology within all phases of work. Prepare required statement of work, project work plans, status reports, variance reports in accordance with the AgFirst System Development Life Cycle for approved/assigned projects and update through the project for project monitoring/reporting. Participate in the development of written procedures to support network monitoring and maintenance. Provide technical assistance to all Lead and Senior Network Analysts. Require: Bachelor's degree or foreign degree equivalent in Computer Science, MIS, or a closely related field, plus 2 years in the job offered or as a Network Administrator/Web Lab Manager. In lieu of Bachelor's degree and 2 years of experience, a Master's degree in Computer Science will be accepted. Experience gained before, during and after degree will be accepted. Must have CCNA certification. Send resume to: Recruiter-Human Resources, AgFirst Farm Credit Bank, P.O. Box 1499, Columbia, SC 29202. (No Phone Calls Please)

Software Engineers & Programmers: (1) Analyze, design, develop, implement, test & support software specialized apps. in Client - Server & AS400 [J2EE & related tech., Rational Rose, RMI, CORBA, Iona Orbix, Weblogic Server, XSL, Oracle & related tools, CL 400, RPG 400, DB2 400]. (2) Analyze, design, develop, test & support middleware & front end web based and back end apps. in J2EE & related tech., C++, Weblogic, IIS, Iplanet, NetScape Enterprise & Borland Apps. Servers. Send Resume to attn: HR, 3761 Venture Dr., Bldg. 100, Suite 240, Duluth, GA 30096.

Paradigm Infotech is looking for programmer/system analysts, DBA, s/w engineers. Candidate must have BS with minimum 1-yr IT experience. Good skills in C/C++, Java, Oracle, WebLogic, VB, HTML, ERP are plus. Traveling is required. Apply jobs@paradigminfotech.com. EOE.

Software Engineer wanted by Nuventive to develop Java Code (JSP, Beans, Classes), Write SQL (ANSI SQL, Transact SQL, PL / SQL) to access MS SQL Server 7.0 & Oracle 9i. Min BS with 5-yr exp. 2yr using Oracle 8.0, 1yr Sun One Tech, Apache Tomcat, iPlanet Application server. Contact hr@nuventive.com. EOE.

Security Operations Center Director sought by managed services provider in Broomfield, CO to work in Broomfield and other unanticipated job sites in the U.S. Plans, coordinates, and implements measures in computer security operations center to safeguard information in computer system networks to protect against accidental or unauthorized modification, destruction, or disclosure. Plans and implements data security at various levels including system (UNIX tools), network (firewalls, routers, packet filters), physical (biometrics, access cards) and application levels (encryption, public keys). Reviews plans to ensure compatibility of planned security measures with established computer security system software. Directs and coordinates operations of security operations center. Develops and writes computer security operations center policies and procedures. Requires bachelor's in computer science;one year exp. planning and implementing data security at various levels including system (UNIX tools), network (firewalls, routers, packet filters), physical (biometric, access cards) and application levels (encryption, public keys).M-F; 8am - 5pm; $120,000/yr. Respond by resume to Employment Programs, PO Box 46547, Denver, CO 80202 and respond to JON CO5059626.

Symphony Corp., headquartered in Madison, WI seeking candidates for mid & senior level positions: Software Engineers, Programmer Analysts, Project Managers and Quality Assurance Technicians. Forward resume, references & salary requirements to: Symphony, HR Dept., 608-294-9321 or email to info@symphony.cc.

Verification Engineer - Perform product testing requirements analysis, develop test plans, generate test cases, automate testing procedures & conduct wireless product testing. Implement applications for telecommunications providers using Java, 2EE, C++ & internet technologies. Bach's deg in Comp Sci, Physics or Elec Engrg reqd + 4 yrs exp in job. Send resume to Panasonic Mobile, 1225 Northbrook Pkwy, Suwanee, GA 30024 Attn: D. Greer, RB.

Retail store chain is looking for an Oracle Developer to: Design & code applications, forms & reports based upon pre-defined functional reqs & high level designs. Responsible for application & report design/development in a Retek (or retail application e.g. SAP) environment. Perform unit testing on completed development projects. Responsible for on-time delivery of quality applications that meet or exceed customer expectations. Work closely with business analysts in a team development environment. Apply working knowledge of relational databases, programming languages, & operating systems including SQL, SQL Plus, Pro*C, PL/SQL, Oracle, Visual Basic, Crystal Reports, SQL Server, UNIX & Windows NT. Experience/Education: Bachelor's degree in computer science or related field, plus two yrs of experience in job offered OR two yrs of experience as programmer analyst. Exper-ience must include experience with Developer 2000 sufficient to perform application development in Oracle Applications (HR, Finance, & Payroll) & Retek Applications (Merchandising & Logistics). Job Location: Matthews, N.C. Work Schedule: 40 hours per week/8:00 a.m. to 5:00 p.m./M-F. Salary Range: $63,600 to $85,000 per year. Send resume to: Employment Security Commission; 500 W. Trade Street; Charlotte, NC 28202. Resumes MUST include the applicant's Social Security Number, DOT Code 030.062-010, and Job Order No. NC2648415.

Programmer/Analyst - Analyze, design, develop, test, support & maintain application software using VB, ASP, VSS.COM, DCOM and COM+. Require: Bach. deg. (or foreign equiv.) in Comp. Sci., an Engineering discipline, or closely related field, w/2 yrs exp. as a Prog/Analyst; Paid travel to various unanticipated client sites within the U.S. is required. 8a-5p, M-F. Resume to: Corp. HR, Systemtec, Inc., 246 Stoneridge Dr., Suite 301, Columbia, SC 29210.

DBAs: Design, develop, upgrade, maintain and administrator complex databases in Oracle, Oracle Apps., MS SQL Server, Oracle 8i, Sun Enterprise and related technologies on various OS - Linux, Sun Solaris, IBM AIX, etc. Prevailing wage/benefits. Send resume to Attn: HR, 295 Henley Place, Duluth, GA 30097. EOE.

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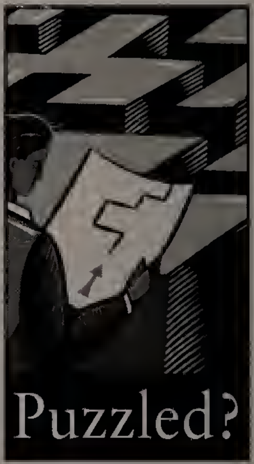

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Web Retailers

ing fees can run as high as $300,000 per year for a major retail Web site, according to CEO David Fry.

So far, only one customer has opted to go the fully open-source route. Maidenform Inc. in Bayonne, N.J., will run OCP on a Tomcat application server and Red Hat Linux, with an open-source MySQL database server on the back end.

Another customer opted to use open-source software only for the Web and application servers running the Java-based OCP. Olean, N.Y.-based Vector Marketing Corp., which does business under the name Cutco Cutlery, chose to stick with Sun Solaris and an Oracle database, since it already had licenses for them.

Two new customers, whose sites won't be ready until May or June, also chose a mix of open-source software and previously licensed commercial products.

One is a retailer that had a marketing site based on Microsoft's Active Server Pages technology. The company plans to switch to the OCP platform running on IBM's WebSphere application server on an Intel-based Linux server for the e-commerce site that Fry is building. On the back end, the company plans to use Microsoft's SQL Server database, its corporate standard.

'Interesting Combination'

"It's an interesting combination," said Rudy Pataro, Fry's chief technology officer. "We like to point to it as an example of the flexibility."

Another Fry customer, a durable-goods manufacturer, is sticking with its IBM DB2 database and its SAP AG NetWeaver application server, but it will run them on Linux.

Retailers haven't exactly been pounding down Fry's door requesting open-source software. But the CEO said the open-source alternative is gaining acceptance.

"They don't start the conversation by saying, 'I want to move to open-source,' " said Fry. "But once they're looking at making a platform change, ongoing cost and total cost of ownership is clearly an issue."

Most retailers need to heavily customize their commercial software because few packages can meet their widely varying needs. So Fry's engineers often find themselves having to do extensive modifications. OCP was designed with customization in mind, and customers can see the source code, since they own it.

The impetus for the creation of the new OCP was his company's quest for the Holy Grail of e-commerce platforms, according to Fry. Engineers divided the project into a series of modules so they could work on the product as time permitted over the course of 12 to 18 months.

OCP's feature set includes a customizable presentation layer, catalog browsing and search, merchandising, checkout, personalization, customer service, site administration and systems integration components. It can also help companies run promotional campaigns, manage product catalogs and oversee cross-sells and upsells, Fry said.

Kate Delhagen, an analyst at Cambridge, Mass.-based Forrester Research Inc., said retailers began reinvesting in their e-commerce platforms starting last year, after doing little but maintenance between 2000 and 2002. She said that although some have shown interest in learning more about Amazon.com Inc.'s Linux-based applications, she hasn't heard much discussion about open-source alternatives.

"Their concerns are that they don't know enough about it, and it may not be mature enough for retail," Delhagen said. "Retailers tend to be conservative and wait for others to go first."

But 10-year-old Fry, which is a well-established online design and development company, expects to be working with open-source software a lot more this year. Pataro estimated that three years ago, 90% of the company's work was Microsoft-related. He predicted that this year, 60% of the sites that Fry builds will be based on OCP and Java, with at least half running some open-source software.

MAIDENFORM will turn to open-source for its site.

But Pataro said he thinks there would be less interest in OCP if Microsoft had given its customers more clear direction on its plans. He said Microsoft's e-commerce platform hasn't evolved much since Commerce Server 2000, and customers view the 2002 release as an incremental upgrade that's "long in the teeth."

Microsoft had been touting an ambitious project code-named Jupiter that aimed to integrate its Commerce Server, Content Management Server and BizTalk Server. However, the company quietly scrapped its Jupiter plans earlier this month (see sidebar).

Pataro estimated that his company's workload would be 70%-30% in Microsoft's favor if Jupiter had been ready. He added that Microsoft hadn't informed him about the Jupiter decision, even though he speaks with the company on a regular basis and Fry is a Microsoft Gold Partner in e-commerce.

"Our customers don't know where Microsoft is headed with their commerce platform. They don't know when it's all going to come together and what it's going to look like when it does," he said. "I have Microsoft clients just waiting for Microsoft to come out with something new so they can move to that platform. Microsoft has some great technology, but there are competitive technologies that make it more difficult for us to sell Microsoft." **44905**

Microsoft Scraps Jupiter E-commerce Suite Plans

The e-business suite of applications that Microsoft Corp. had code-named Jupiter and planned to sell as a single product won't be delivered in the 2004-05 time frame as planned, company officials confirmed last week.

Trina Seinfeld, a senior product manager in Microsoft's e-business server division, said that "it's really going to be up to customers" if the product is ever revived.

Plans had called for Microsoft to sell a single product that integrated its Commerce Server, Content Management Server and BizTalk Server by 2004. Company officials later revised the road map and stated that the first phase of Jupiter, a new version of BizTalk Server, would be delivered in 2004 and that the fully integrated suite, or "true Jupiter vision," would emerge in 2005.

Ted Kummert, vice president of e-business servers at Microsoft, sent a letter to 450 customers and partners on Feb. 13 to inform them that, after careful study, the company had determined that customers prefer to purchase their integration and portal technology separately, so Microsoft wouldn't deliver Jupiter as promised.

"Changing the packaging strategy does not in any way change our goals for interoperability between our portal and integration technologies. Our requirements for interoperability remain firmly intact," Kummert told customers.

He added that the "Jupiter vision" would be realized through the Windows Server System, which he called "an effort that aims to better integrate all of our servers technologies."

One of the Jupiter pieces, BizTalk Server 2004, is scheduled to be launched on March 2, but plans for the other two Jupiter products remain unclear.

Kummert noted that customers and partners have made it clear that they want portal technology that is "architecturally unified" and "brings together" Microsoft's Content Management Server and SharePoint Portal Server. The organizations responsible for those products have been unified in response to that feedback, he said.

But there was no mention at all of the word *commerce* in Kummert's letter. Seinfeld said Microsoft is working on plans for the commerce market and expects to release a road map "in the next few months."

– Carol Sliwa

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FRANK HAYES ▪ FRANKLY SPEAKING

Secure Suggestions

HOW CAN WE STOP home PC users from spreading worms and viruses that put us all at risk? That's a question I asked recently in this space [QuickLink 44569]. We've tried for years to educate users, and they still click on e-mail attachments that infect their PCs with the worm of the week. But what other solution is practical, affordable and effective? "Education may not be much," I concluded. "But until we come up with a better idea, it's all we've got."

Fortunately, you took the hint. Better ideas? You've got 'em.

One obvious fix: updated antivirus software on every PC. But how? "Mandate that all new computers be sold with antivirus software and a perpetual update service, and price the computer to reflect the additional costs. You can't buy a car without an airbag," points out one consulting executive. He also proposes imposing an e-mail tax to thwart spammers, with the proceeds funding antivirus protection.

Here's a creative technical solution from an energy-industry reader: "Microsoft could put hooks in Internet Explorer and Outlook so that they would not work unless an antivirus package was installed and had current virus definitions," he says. No antivirus? No Internet.

"Microsoft could easily prevent executables from being opened within Outlook," another executive says. "At the very least, when a user clicks on an attachment, a dialog with a skull and crossbones should appear that says, 'WARNING: This attachment could contain a computer virus or worm,' with a default answer button of 'Do not open this file' and an alternative of 'Live dangerously.' "

Making Microsoft fix its software is a popular idea, and a reader at a bank knows why: "Trend Micro claims that virus attacks cost businesses $55 billion in 2003. At the same time, Microsoft anticipates revenues in fiscal 2004 between $35.6 and $35.9 billion. If both these numbers are correct, the costs of cleaning up from Windows-specific viruses is 150% of the cost of licensing the software from Microsoft in the first place!"

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

But some of you want Internet service providers to take more action. "I expect the gatekeepers of the Internet, the ISPs, to manage Internet service," says the CEO of a small software company. "I pay the phone company for Caller ID and call blocking. The ISP can deliver safer access, and we will pay for it."

A security administrator adds, "If someone's infected computer starts abusing a neighboring system, the administrator of that system will block the abuse and sometimes also contact the abuser's ISP. Responsible ISPs usually take action by shutting down service for the affected user until that user can verify that his computer system is no longer infected. When everyone in that loop participates, the system works well."

I can't do justice in a brief summary to another reader's idea for creating a new, secure, privately funded Internet. But he believes major ISPs could get together to build a sort of online gated community — and the bad guys could have the old Internet for themselves.

"Let's deal with it in our uniquely American can-do manner: Get lawsuits involved," says still another reader. "If your computer attacks my network or relays spam, I should be able to sue you for damages. Your defense would depend on whether you could demonstrate you had a current antivirus product you kept up to date."

And what about education? An infrastructure manager points to company-sponsored wellness programs as a model. "Businesses have learned that improving the health of employees saves them health insurance costs," he says. "Likewise, investing in teaching users good practices to use at home can have the same benefit for the IT infrastructure. Those good practices become habits that carry over to what they do at work."

Thanks to everyone for the better ideas. Now the challenge is to make them a reality. 44872

SHARK TANK

Both Sides Now

User complains to this IT pilot fish that a networked printer has stopped printing double-sided pages. But another user insists she can print double-sided without a problem. "The printer did not appear to have the duplex unit installed," fish says. "I asked the second user to print a document in duplex. The print job came out with printing on one side. She pulled it off the printer, reversed the paper, reinserted it into the printer . . ."

Um, Yes

This CIO would rather transfer files on floppy disk than over the network. So as tech pilot fish is setting up a laptop and projector for him, he asks if the CIO wants to have both a floppy drive *and* a network connection. "Yes," says the CIO. "I also need access to the Internet, and while you're at it, can I also get access to the intranet?"

Forwarding Address

This IT pilot fish starts moving into a new office on Monday. Tuesday afternoon, he gets a call from his boss: "Did you remember to transfer your e-mail to the new office? I want to make sure our customers can still reach you."

Escalate The Problem

For months, this pilot fish responsible for database middleware says there's a communication problem between his server and the mainframe database, and he thinks it's on the mainframe end. But the mainframers just growl, "Capture is running," and walk away. Finally fish gets his boss to shift middleware support to the mainframe group. "First day out, they discover that a parameter on the mainframe side isn't set correctly," fish says. "After changing the parameter, the persistent problem seems to stop – and the mainframe folks proudly proclaim victory."

Talk Dirty

This pilot fish is having problems with Microsoft Outlook, so he calls tech support at the big computer store where he bought the software. "After trying every tip to no avail, the tech asked me, 'Is your screen dirty?' " fish reports. "I hung up."

Think Pink

Pilot fish's new boss calls him to her office for help with what she calls the "pink screen of death." Sure enough, the PC's screen is pink, and the boss says she has to reboot it every day to make it go away. How do you do that? fish asks, and she shows him – by pushing the power switch. "Turns out that at night she would turn off the CPU but not the monitor," fish sighs. And the pink screen? "The monitor was just displaying its out-of-signal message."

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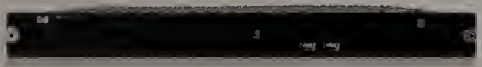

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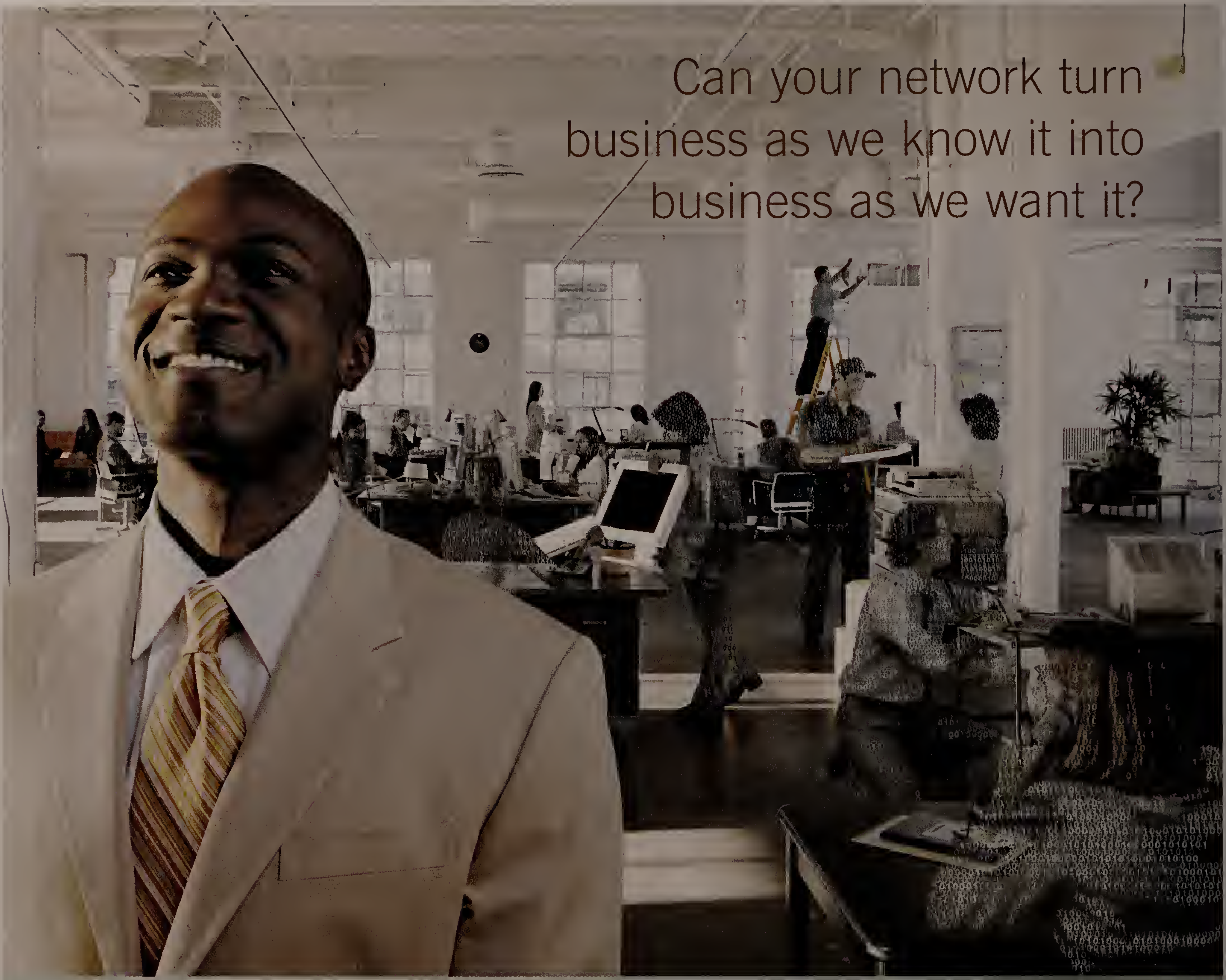
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